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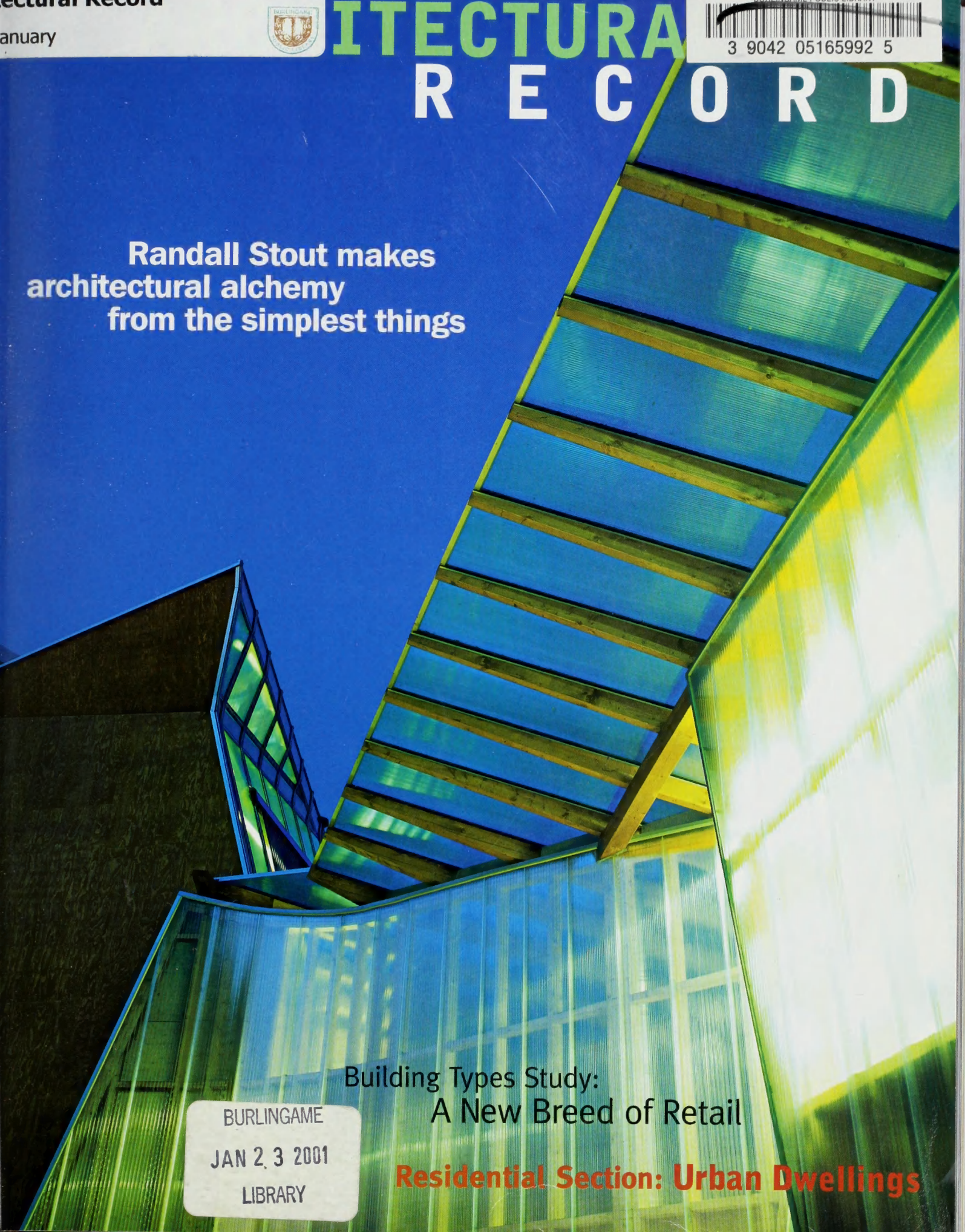
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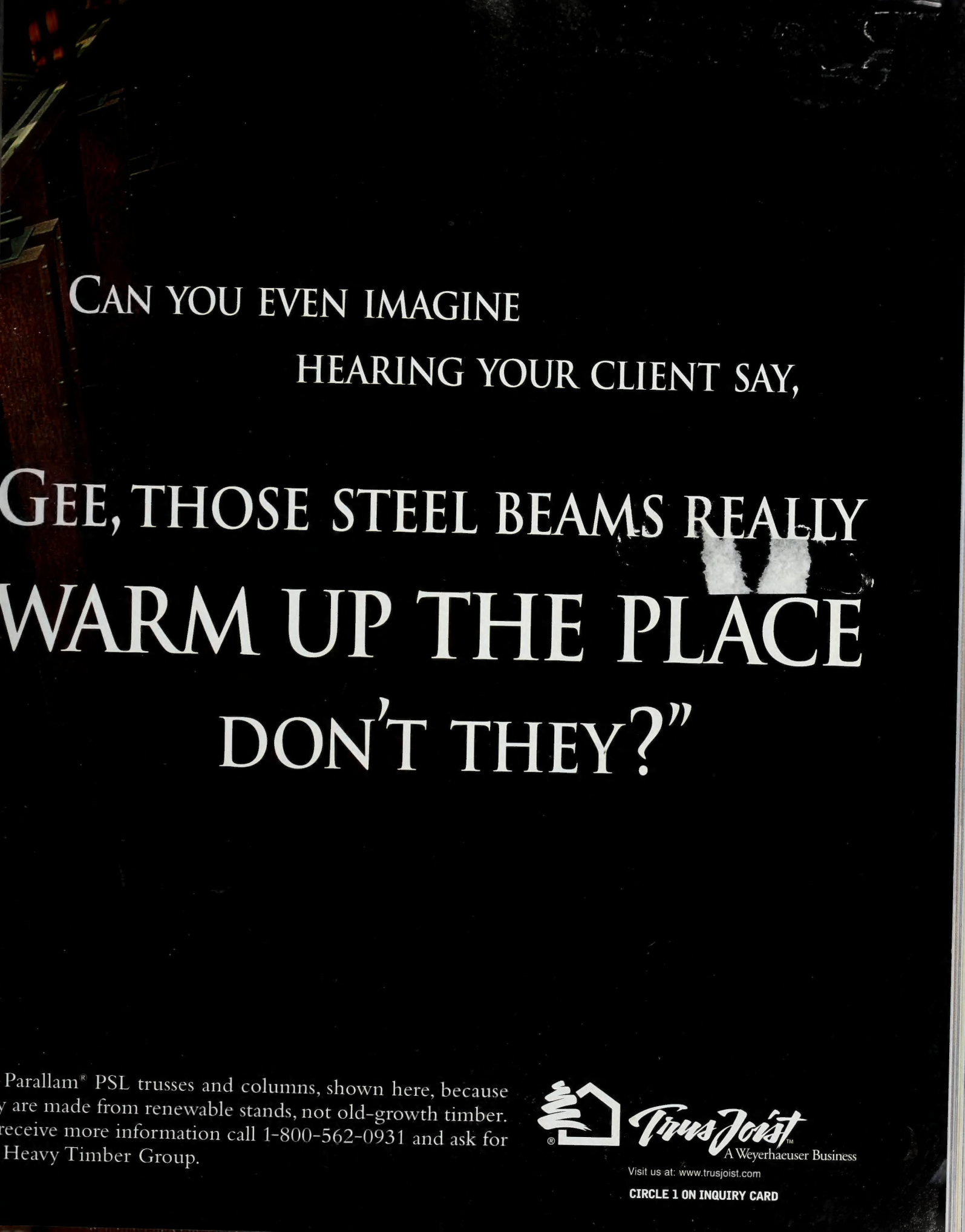
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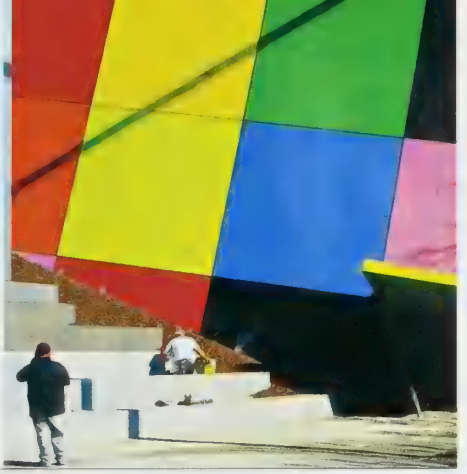
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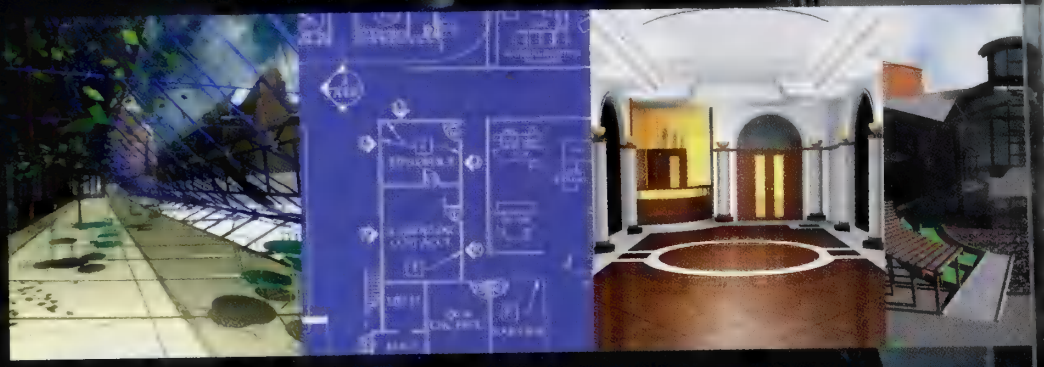
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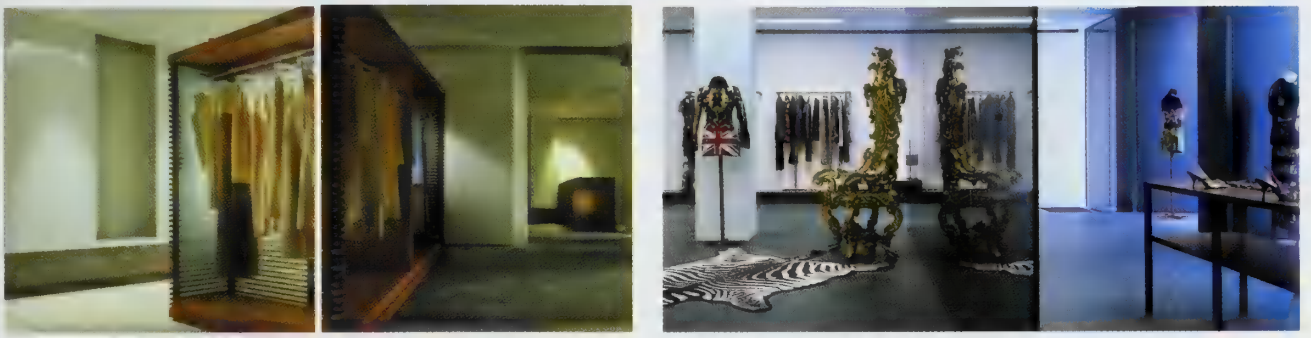
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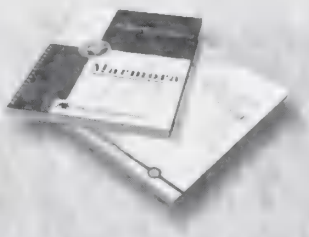
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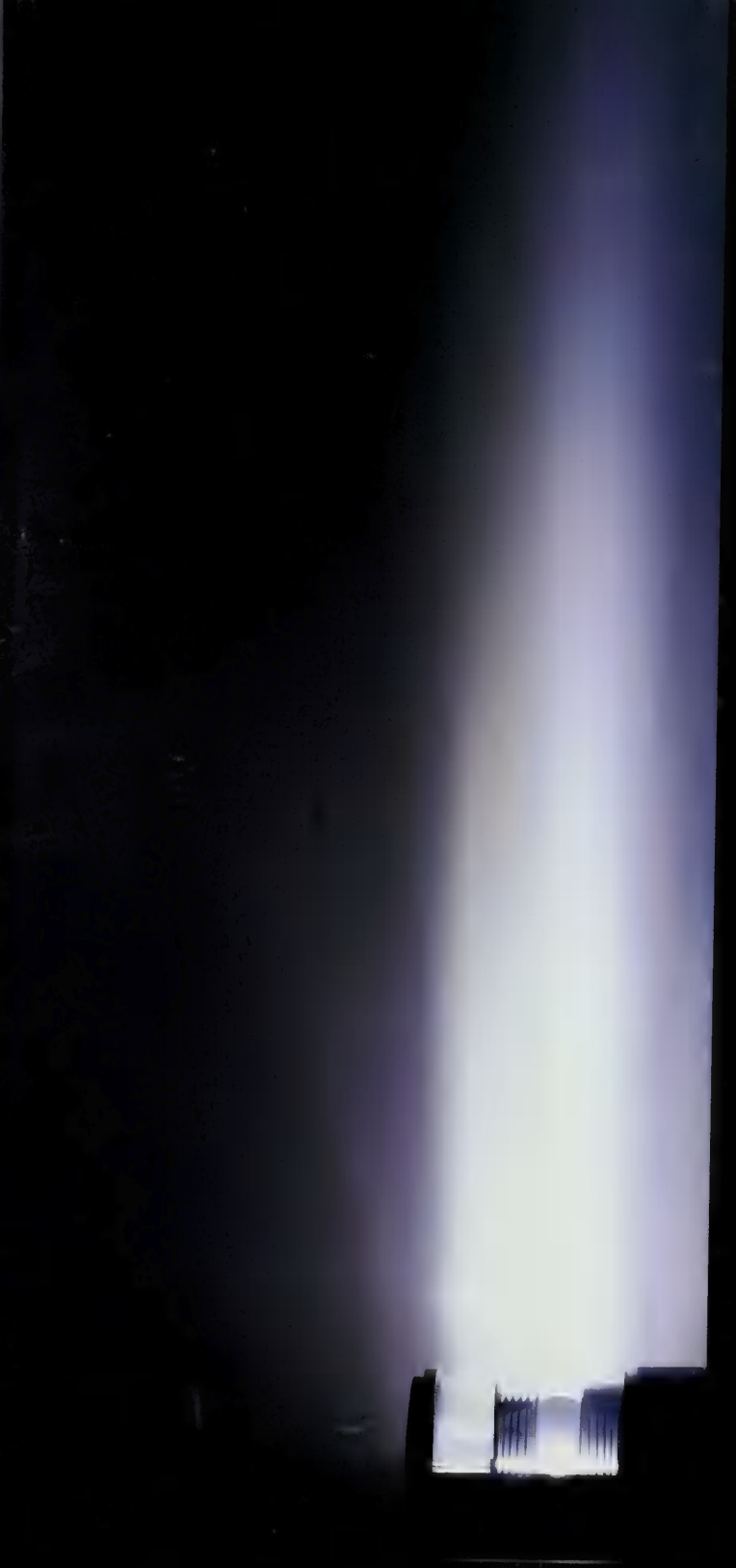
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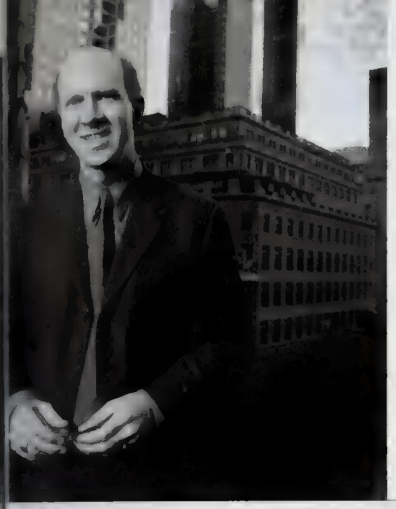


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From Dawn to Decadence

Editorial

By Robert Ivy, FAIA

If your resolutions for the new year include catching up on reading, trying to understand architectural theory by finally reading Derrida, relax. You're a decade too late. In one great ironic swoop, the debate has moved on from conceptually driven architecture to pragmatism and the delights of the marketplace. Sic transit mundi.

Like most architects, however, you may be unaware that pragmatism connotes more than common sense and hard choices: it is, in fact, a philosophical understanding eloquently propounded by thinkers like William James, Henry James' brother, with strong roots in the United States. It has been, in a sense, our national philosophy—now writ large on the world's stage.

Feel lost? For the current generation of architects raised on hype, visually acute but verbally impoverished, more cognizant of Rem than Erasmus of Rotterdam, up on James Turrell's latest installation but ignorant of Descartes' theories of light, excessive contemporary information can lead to despair. Overwhelmed with data and chatter, we can become mired in words and images, transfixed to our computers and journals, subject to the frosty breath of the media, blowing this way and that: philosophy is dead; long live commerce. Armani conquers all!

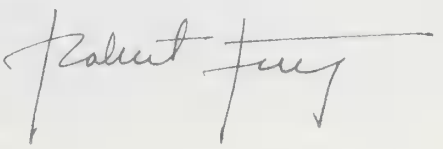
Jacques Barzun offers help. The former Columbia professor and dean has done what no media maven could do: written a learned, masterful book entitled From Dawn to Decadence: 500 Years of Western Cultural Life, *that explains the intellectual and artistic course of the modern era. Barzun relates the intertwined threads of western culture, not as a recitation of mind-numbing wars or succession of kings, but as personal, synthetic vision of what we have thought and made and dreamed. What was the relationship, he asks, of the rise of the artist with the development of individual consciousness? How did populism and a spreading democratic ethos affect the development of public libraries? His book is the equivalent of the western civilization course you wish that you had taken, offering ready succor to the intellectually hungry.*

With lucid prose and spot-on diction, Barzun tours the intellectual landscape of the centuries, heightening your taste for more. Unlike some architectural poseurs who dominate the seminar circuit, he avoids grandiloquent words and phrases, employing economy of means and expression to communicate directly with the reader. For all his accomplishments, however, it's not a perfect book. You might quibble over selective quotations or analysis that occasionally runs the risk of skimming; you may not espouse his world-view.

While the West may not be the whole world, on balance, this ambitious book succeeds, functioning both as summation and as a beginning. In a sense, Barzun provides a road map, not overexposing his subjects, but telling us what other books to explore (to better understand pragmatics, for example). His own analytical method helps clarify without oversimplification. Out of the morass of historical details, he finds larger themes that can be traced throughout five centuries—analysis, abstraction, scientism, self-consciousness, and emancipation, among others.

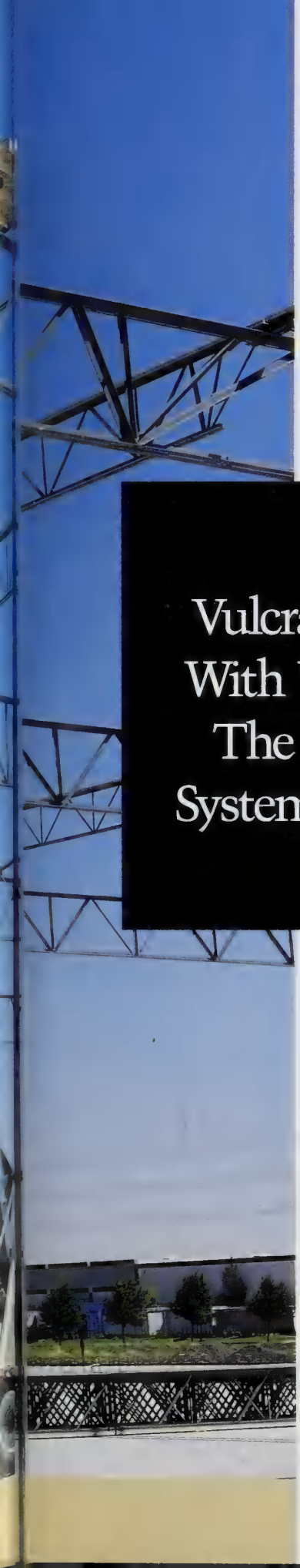
Along the way, he lingers at critical historical moments, such as Venice in 1650, poised like overripe fruit, or Weimar in 1790. How better to appreciate utopian architecture than to acknowledge its origins, the works of Thomas More, Francis Bacon, or Tommaso Campanella (who wrote The City of the Sun*), or Chicago's architectural flowering in the 1890s, blessed with great new universities and suffused with imperial American buoyancy.*

What application does his work have for architects? Barzun sums up his own purpose: "This book is for people who like to read about art and thought, manners, morals, and religion, and the social setting in which these activities have been and are taking place." He is describing the milieu of art and architecture, the world for which we provide the setting. Peering toward the coming year, this book offers a framework to build on—pragmatically and theoretically.





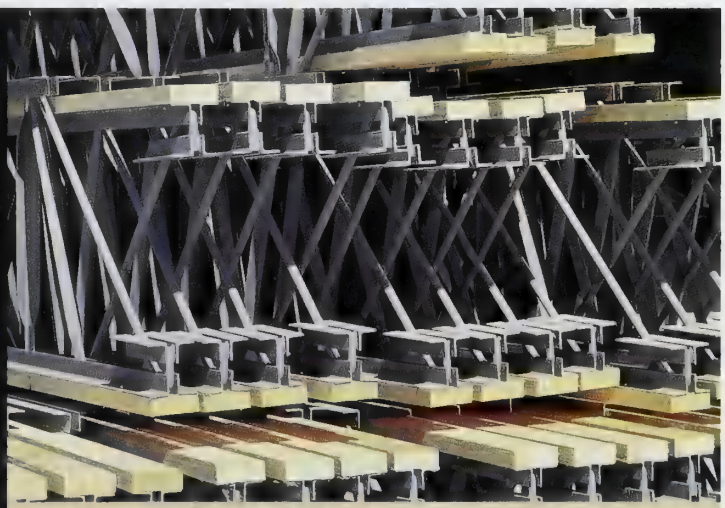
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CIRCLE 11 ON INQUIRY CARD

Letters

The road more traveled

Critics of road building or the "car culture" proffer mass transit as the cure for sprawl and for transportation ills. Alex Marshall [Critique, DECEMBER 2000, page 57] fails to notice that rail-based transit systems serve a tiny minority, while the majority of transportation needs reside elsewhere and depend on the highway system, which is the most accessible and flexible system available.

We need road construction to maintain the highway system, to improve it, and to expand it. The politics of transportation funding will most likely guarantee road building far into the future, allowing the possibility of a suburban lifestyle—cars, parking lots, and all—for those who prefer it because core cities do not exist as magnets for everyone. And the low probability of the public ever embracing mass-transit options reflects not their ignorance, but the nonsense of such systems. The "masses" of "mass" transit, whoever they are, don't live in clusters, on neat, linear paths corresponding to transit rights-of-way. To suggest that we stop building roads is a mistake, about as meaningful as the suggestion, "stop voting" until maybe there's a better way to count votes.

—Allen E. Neyman, AIA
VSArchitects
Silver Spring, Md.

Thanks for your continuing interest in and features about urban issues. As an architect and urban planner, I appreciate the effort to keep architects abreast of what is going on in our cities and suburbs, and how it affects our lives and our futures.

Mr. Marshall's critique [DECEMBER 2000, page 57] is right on the mark. This country was the very first to grow up with the automobile, and the car is still the ubiquitous symbol of social status, independence, and fantasy in this country. No argument either with his proposed solution (stop building roads). In and of itself, mass transit and technology are no strangers on the list of ways to stop the degradation of our urban lives which was pointed out by Lewis Mumford 40 years ago. Knowing how to make it happen in our political/ economic system is the issue. Winning over the social/economic entrenchment enjoyed by the automobile is daunting. The vested interests in auto manufacturing, distribution, sales, marketing, and maintenance have a hammerlock on Capitol Hill, not to mention state highway departments, the oil business, insurance companies, and on and on. Even GSA won't commit to integrating structured parking for its beautiful new courts, leaving a visual blight on their surroundings (e.g., Richard Meier's project).

Shouting the simplistic approach is a good way to get people to think about an idea. Unfortunately, it takes a lot more small, orchestrated political steps to make one idea a reality. There are good minds that want to see Mr. Marshall's proposal come true. But to make it to the top, they will have to have far more clout than the inventors of Earth Day ever did.

—Ken Austin
Orlando, Fla.

Students speak out

In response to Robert Ivy's editorial, "The Keys to the Kingdom" [SEPTEMBER 2000, page 17], we, as students in the University of Oregon's Interior Architecture program, would like to offer a different point of view regarding the interior design profession and licensure. We would like to explain why we are advocates, as well as good candidates, for licensure.

The Interior Architecture program is housed within the University of Oregon's Architecture Department. It was officially developed in 1928 as a result of the foresight of the members of the architecture staff regarding the trend of specialization and multidisciplinary teamwork in design. Students graduate after completing a five-year, FIDER-accredited professional curriculum.

Our course subjects cover a range of topics including: building systems, construction, life safety, spatial composition, environmental control systems, and contextual issues such as site analysis and user requirements. We are also trained in electric and day lighting, building codes, materials, surface finishes, furniture design and selection.

Graduates of this program generally go on to practice design and work in close collaboration with architects, engineers, and other designers. These graduates deserve the respect of the building profession and of the public for the extensive level of educational training and professional experience they have received. The advantage of licensure is that it creates a standard. Once this standard is set, it will reduce the misconceptions held by Mr. Ivy and much of the public about the interior design profession.

The licensing of interior designers would not, as Ivy states, "dilute the profession." Instead, it would distinguish professionals who have received an advanced level of training, from those who have not, but who currently share the title of Interior Designer.

—Therese DuBravac, Elizabeth Goldstein, Greg Johnson, and Ellen Nystrom
Interior Architecture Program
University of Oregon

Perhaps we should preserve

It took some courage on Bob Stern's part to want to preserve the threatened Edward Durell Stone Huntington Hartford Museum on Columbus Circle, my least favorite building in New York [Critique, NOVEMBER 2000, page 63]. However, Stern made a convincing case in the argument that this is a historic landmark worthy of consideration.

The Landmarks Preservation Commission should hold hearings for this building and set a new criteria standard: That all New York buildings are historic until proven otherwise.

—John P. Sheehy, FAIA, RIBA
San Francisco

Corrections

In the October issue [PSFS, page 140] PHY was mistakenly identified as the structural engineer for the conversion of the PSFS building. It was the mechanical/electrical engineer. In the November Critique of Portland's review process, [page 68] by Suzannah Lessard, the caption for the photos of Portland's Chinese Garden should credit Suzhou Institute of Landscape Architectural Design as part of the design team. In the same story, transposed names should read Nancy Merryman and Candace Robertson. The last name of Ken Freidlein, author of the article on the Catlano house [News, DECEMBER 2000, page 42], was misspelled as Friedlien. The article on the Rauner Special Collections Library at Dartmouth College [OCTOBER 2000, page 158] mistakenly claimed that, aside from Webster Hall, most of the buildings on the campus were designed by Charles Alonzo Rich. His firm, Lamb and Rich, only designed 21 of almost 150 buildings on the campus. Rich did not design Baker Hall, as stated, but rather it was Jens Frederick Larson.

E-mail letters to editor-in-chief Robert Ivy at rivy@mcgraw-hill.com





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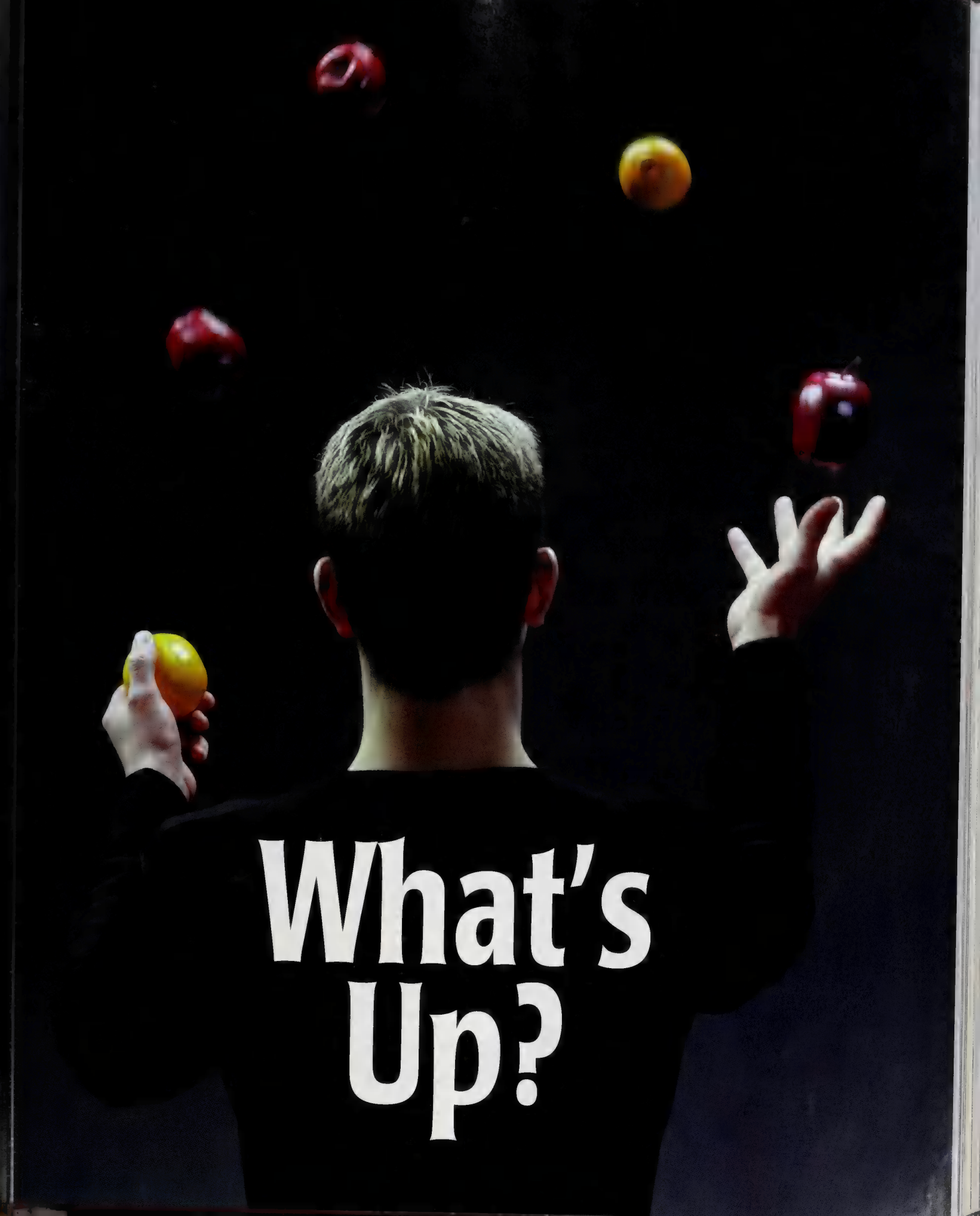
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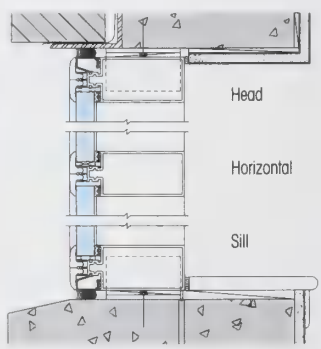
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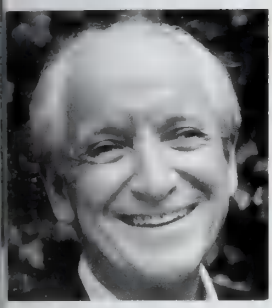
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Record News

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Holocaust Memorial in Vienna p. 34
New stadium for Detroit Lions p. 36

Postmodernist Graves named winner of 2001 AIA Gold Medal



ostmodernism is not nec-
ssarily in architectural
ashion at the start of the
1st century. That's why
ne selection of Michael
raves, FAIA, as recipient of
ne 2001 AIA Gold Medal is
surprise.

The American
stitute of Architects (AIA)
as named Graves, 66, as
ne 58th recipient of its Gold Medal,
ne highest honor the AIA confers
n an individual. Graves, who is
ased in Princeton, N.J., will receive
ne award at the 2001 Accent on Architecture awards ceremony on February 16 in Washington, D.C. The award recognizes an architect for a significant body of work and a lasting influence on the theory and practice of architecture. Past recipients include Frank Lloyd Wright, Thomas Jefferson, Le Corbusier, Louis Sullivan, and 2000 winner Ricardo Legorreta.



Ministry of Health, Welfare, and Sport, in The Hague, by Michael Graves.

"To receive an award like this from my peers is most important. That, in and of itself, is extraordinary," Graves told RECORD. "After a number of my buildings were so controversial I thought I'd never win it."

Beginning in the late 1970s and 1980s, Graves' work focused on interpretations of the traditional language of architecture, and he became one of the most celebrated Postmodernists. His buildings incorporate bold color, abstraction of tradition forms, and variations in scale. "I found that the language I was using [as a Modernist in the early 1970s] was private, so I started to find ways to incorporate humanist aspects of architecture that engage a broader audience," Graves told RECORD. "After those early projects, I think I've been in a period of refinement."

His recent work includes the Dolphin and Swan Hotels in Orlando, Disney Corporate Headquarters in Burbank, Calif., and scaffolding for the Washington Monument restoration. *John E. Czarnecki, Assoc. AIA*

2001 AIA Firm Award goes to Des Moines' Herbert Lewis Kruse Blunck Architecture

he American Institute of Architects
IA) named 44-person Des Moines
m Herbert Lewis Kruse Blunck
rchitecture (HLKB) recipient of the
001 AIA Architecture Firm Award.
german McCurry Architects and
rquitectonica were among the
ms in the running for the prize.

The annual award, which recognizes a practice that has produced distinguished architecture consistently for at least 10 years, is the highest honor the AIA confers on an architecture firm. Past winners include Cesar Pelli & Associates, Kohn Pedersen Fox Associates, Skidmore, Owings & Merrill, and Gensler, the 2000 winner. HLKB, established in 1961, will receive the award at the 2001 Accent on Architecture ceremony, to be held on February 16 in Washington, D.C.

"It definitely is a surprise," HLKB partner Kirk V. Blunck, FAIA, told RECORD. "We often take mundane and prosaic projects and make the most out of them. For many of our clients, [the award] is a validation of their support for us." *JEC*

WWW For more on the AIA Gold
edal, AIA Architecture Firm Award,
d Topaz Medallion winners, visit
ww.architecturalrecord.com





A recent project by HLKB (above) is the Marakon Associates interior (top).



COPELAND TAKES AIA/ACSA TOPAZ MEDALLION

Architect and educator Lee G. Copeland, FAIA, is the recipient of the 2001 AIA/ACSA Topaz Medallion for Excellence in Architectural Education.

The award, given annually by the American Institute of Architects (AIA) and the Association of Collegiate Schools of Architecture (ACSA), honors an individual who has made outstanding contributions to architectural education for at least 10 years and whose teaching has influenced a broad range of students. Copeland will be honored both at the ACSA convention in Baltimore in March and at the AIA convention in Denver in May.

"Obviously I am thrilled and very humbled by it," Copeland told RECORD. He was the dean at the University of Pennsylvania and University of Washington. ***JEC***

OFF THE RECORD

Smith-Miller + Hawkinson Architects is beginning design for a new visitors' center building at Cornell University.

Moshe Safdie & Associates was selected for the $300 million Metropolitan Kansas City Performing Arts Center project on December 18. Short-listed firms included Charles T. Young, AIA, with Polshek Partnership Architects, Cesar Pelli & Associates, and David M. Schwarz/Architectural Services. The building is scheduled for completion in 2006.

The Denver Museum of Nature and Science has selected Harry Hoffman Architects in association with Rice Design for a $45 million science education center.

The *Chicago Tribune* reports that the Pritzker family, which owns the Hyatt Hotel chain, plans to develop a downtown Chicago building that will likely be more than 50 stories tall and include the headquarters of Hyatt Hotels Corp. and the Pritzker Organization. The Pritzkers confirm that discussions with British architect Lord Norman Foster have occurred for the commission.

New York Mayor Rudolph Giuliani threw his support behind a proposed Guggenheim Museum [MAY 2000, page 41] in lower Manhattan, along the East River. The city of New York has committed to funding approximately 10 percent of the $678 million building by Frank O. Gehry [FAIA].

NBBJ Sports and Entertainment has been hired to design a new Madison Square Garden in New York City.

Eight firms are shortlisted for a $250 million-plus federal courthouse in Los Angeles: Kohn Pedersen Fox, Skidmore Owings & Merrill, Zimmer Gunsul Frasca, Perkins & Will, Cannon Dworsky, Steven Ehrlich Architects, Rafael Viñoly Architects, and Richard Meier & Partners.

2001 AIA Honor Awards announced for 30 projects

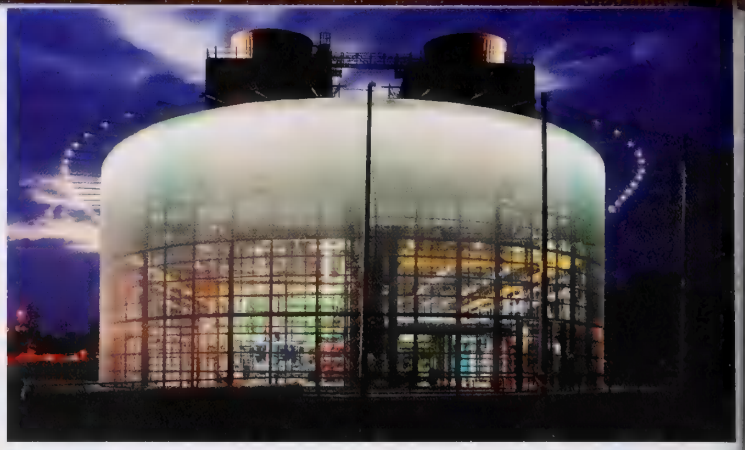
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Honor Awards in Architecture

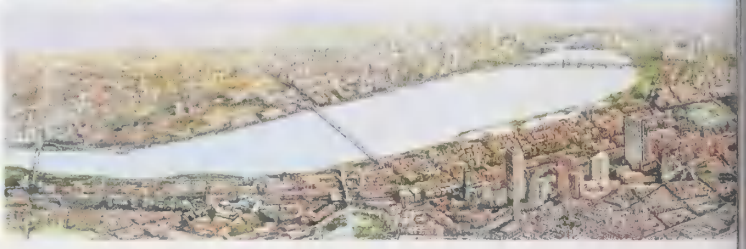
The 14 Honor Awards for Architecture will be awarded to Natatorium at Cranbrook Educational Community, Bloomfield Hills, Mich., by Tod Williams Billie Tsien Associates; Rifkind Residence, Wainscott, N.Y., by Tod Williams Billie Tsien Associates; Conference Barn, Middleburg, Va., by Sant Architects; Benroya Hall, Seattle, by LMN Architects; University of Pennsylvania Modular VII Chiller Plant, Philadelphia, by Leers Weinzapfel Associates; Condé Nast Building, New York City, by Fox & Fowle Architects; 11th Avenue Townhomes, Escondido, Calif., by Studio E Architects; New York Times Printing Plant, Flushing, N.Y., by Polshek Partnership Architects with Parsons Main; College—Conservatory of Music, University of Cincinnati, by Pei Cobb Freed & Partners with NBBJ; Queens Borough Public Library, Flushing, N.Y., by Polshek Partnership Architects; Hyde Park Branch Library, Boston, by Schwartz/Silver Architects; Reliance Building/Hotel Burnham, Chicago, by Antunovich Associates with McClier; McCormick Place South Building, Chicago, by Thompson Ventulett Stainback & Associates with Epstein & Sons International; and Downtown Homeless Drop-in Center, Los Angeles, by Michael B. Lehrer, AIA, and Lehrer Architects with F. Ameen.

Honor Awards in Interiors

The 12 Honor Awards for Interior Design go to Jacobs Residence Subterranean, Sherman Oaks, Calif., by Patrick J. Tighe, AIA; Alliance Française de Chicago Cultural Center, Chicago, by DeStefano & Partners; Pratt Architecture School, Higgins Hall, Brooklyn, N.Y., by Rogers Marvel Architects with Ehrenkrantz & Eckstut Architects; Lucent Technologies—Government Business Solutions, Washington, D.C., by Group Goetz; Fitch/O'Rourke Residence, Washington, D.C., by Robert N. Gurney, AIA; Herman Miller National Showroom, Chicago, by Krueck & Sexton Architects; Jin Mao Tower, Shanghai, by Skidmore, Owings & Merrill (SOM) with the Shanghai Institute of Architectural Design and Research for the Shanghai Trade Center Company; New York Stock Exchange Trading Floor Expansion by SOM; Radio City Music Hall Restoration, New York City, by Hardy Holzman Pfeiffer Associates; Soho Loft, New York City, by Architectural Research Office; Reactor Films Production Studio, Santa Monica, Calif., by Pugh + Scarpa; and Detroit Opera House by the Albert Kahn Collaborative with JPRA Architects.







AIA Honor Award winners include a chiller plant by Leers Weinzapfel Associates (top), Reactor Films Production Studio by Pugh + Scarpa (middle), and A Civic Vision for Turnpike Air Rights in Boston by Goody Clancy & Associates (above).

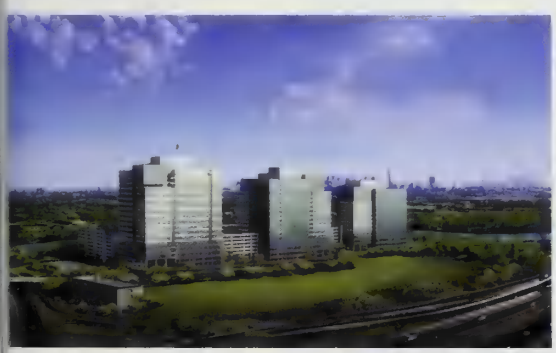
Honor Awards in Urban Design

The four Honor Awards for Regional/Urban Design go to the Racine Downtown Development Project, Racine, Wis., by Crandall Arambula; Flag House Courts Revitalization, Baltimore, by Torti Gallas & Partners CHK; Santa Monica Boulevard master plan, West Hollywood, Calif., by Zimmer Gunsul Frasca Partnership; and A Civic Vision for Turnpike Air Rights, Boston, by Goody Clancy & Associates. *JEC*

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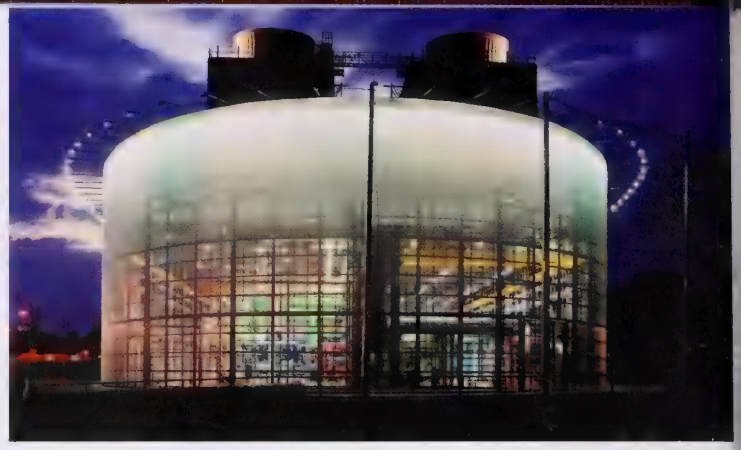
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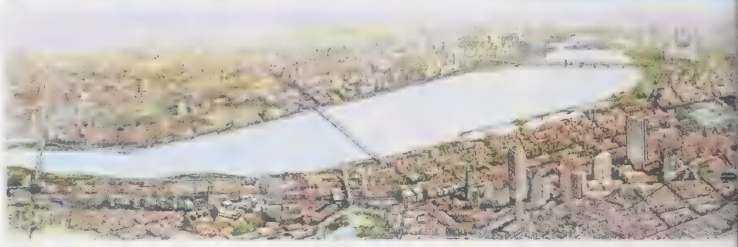
The 14 Honor Awards for Architecture will be awarded to Natatorium at Cranbrook Educational Community, Bloomfield Hills, Mich., by Tod Williams Billie Tsien Associates; Rifkind Residence, Wainscott, N.Y., by Tod Williams Billie Tsien Associates; Conference Barn, Middleburg, Va., by Sant Architects; Benroya Hall, Seattle, by LMN Architects; University of Pennsylvania Modular VII Chiller Plant, Philadelphia, by Leers Weinzapfel Associates; Condé Nast Building, New York City, by Fox & Fowle Architects; 11th Avenue Townhomes, Escondido, Calif., by Studio E Architects; New York Times Printing Plant, Flushing, N.Y., by Polshek Partnership Architects with Parsons Main; College—Conservatory of Music, University of Cincinnati, by Pei Cobb Freed & Partners with NBBJ; Queens Borough Public Library, Flushing, N.Y., by Polshek Partnership Architects; Hyde Park Branch Library, Boston, by Schwartz/Silver Architects; Reliance Building/Hotel Burnham, Chicago, by Antunovich Associates with McClier; McCormick Place South Building, Chicago, by Thompson Ventulett Stainback & Associates with Epstein & Sons International; and Downtown Homeless Drop-in Center, Los Angeles, by Michael B. Lehrer, AIA, and Lehrer Architects with F. Ameen.

Honor Awards in Interiors

The 12 Honor Awards for Interior Design go to Jacobs Residence Subterranean, Sherman Oaks, Calif., by Patrick J. Tighe, AIA; Alliance Française de Chicago Cultural Center, Chicago, by DeStefano & Partners; Pratt Architecture School, Higgins Hall, Brooklyn, N.Y., by Rogers Marvel Architects with Ehrenkrantz & Eckstut Architects; Lucent Technologies—Government Business Solutions, Washington, D.C., by Group Goetz; Fitch/O'Rourke Residence, Washington, D.C., by Robert N. Gurney, AIA; Herman Miller National Showroom, Chicago, by Krueck & Sexton Architects; Jin Mao Tower, Shanghai, by Skidmore, Owings & Merrill (SOM) with the Shanghai Institute of Architectural Design and Research for the Shanghai Trade Center Company; New York Stock Exchange Trading Floor Expansion by SOM; Radio City Music Hall Restoration, New York City, by Hardy Holzman Pfeiffer Associates; Soho Loft, New York City, by Architectural Research Office; Reactor Films Production Studio, Santa Monica, Calif., by Pugh + Scarpa; and Detroit Opera House by the Albert Kahn Collaborative with JPRA Architects.







AIA Honor Award winners include a chiller plant by Leers Weinzapfel Associates (top), Reactor Films Production Studio by Pugh + Scarpa (middle), and A Civic Vision for Turnpike Air Rights in Boston by Goody Clancy & Associates (above).

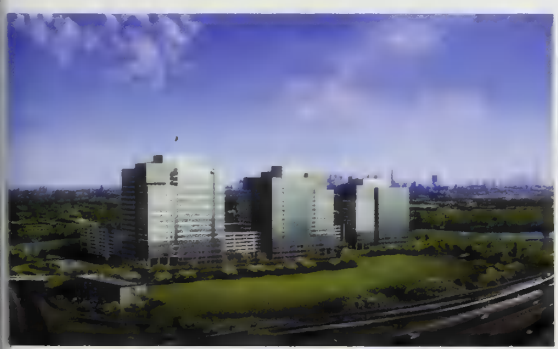
Honor Awards in Urban Design

The four Honor Awards for Regional/Urban Design go to the Racine Downtown Development Project, Racine, Wis., by Crandall Arambula; Flag House Courts Revitalization, Baltimore, by Torti Gallas & Partners CHK; Santa Monica Boulevard master plan, West Hollywood, Calif., by Zimmer Gunsul Frasca Partnership; and A Civic Vision for Turnpike Air Rights, Boston, by Goody Clancy & Associates. *JEC*

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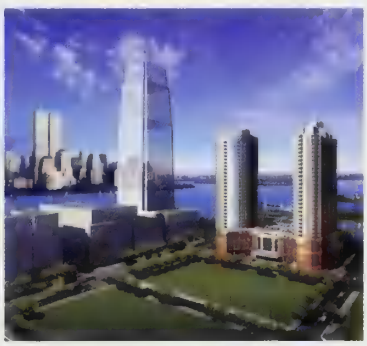
JFK Terminal Redevelopment Interior Design: Silvester Tafuro Design, Inc. Architect: DMJM



Architect: DMR



Interior Design: DMR



Architect: Gruzen Samton

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CIRCLE 15 ON INQUIRY CARD

OFF THE RECORD

The Morgan Library in midtown Manhattan has chosen [redacted] for an addition and renovation. The library had considered [redacted], and [redacted] for the plum job.

Architectural drawings of the Clinton Presidential Center in Little Rock, by [redacted], were unveiled at the White House in December. [redacted] said he had visited or examined images of all 10 existing presidential libraries and "tried to lift some of their best ideas."

Architects are interesting people. Really, they are. At least the editors at *People* magazine believe so: they printed a four-page feature on [redacted], in the December 4, 2000, issue.

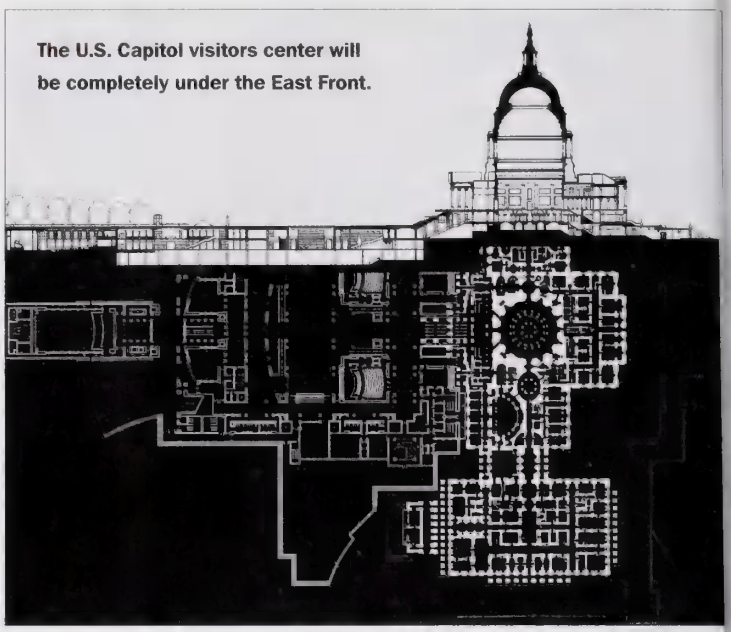
To fix the swaying Millennium Bridge [AUGUST 2000, page 28] in London, [redacted] will add dampers at a cost of $7 million. The bridge is not expected to reopen until summer 2001.

[redacted] of Santa Monica, Calif., was selected in a competition to design an expansion to the Pittsburgh Children's Museum—a $10 million energy-efficient building to connect the neoclassical former Allegheny Post Office Building to the Buhl Planetarium, an Art Moderne structure. [redacted] of Atlanta placed second and New York's [redacted] took third place.

The [redacted] is considering Las Vegas, Miami, and Detroit as possible host cities for the 2005 AIA Convention. Futures conventions will be in Denver in 2001, Charlotte in 2002, San Diego in 2003, and Chicago in 2004.

Chicago architect [redacted] has been chosen to design a new Holocaust memorial and education center in the Chicago area.

U.S. Capitol visitors' center gains approval



The U.S. Capitol visitors center will be completely under the East Front.

Visitors' centers are usually highly visible near the attraction. That will not be the case for the United States Capitol visitors' center, which is planned to be completed underground, beneath the East Front of the Capitol. The bipartisan Capitol Preservation Commission unanimously approved the design in October, and construction is expected to begin later this year. Completion is planned for 2005.

The $265 million visitors' center will have three stories underground, beneath the Capitol parking area and a landscaped area by Frederick Law Olmsted. It will include two orientation theaters, historical displays, a cafeteria, and rest rooms to accommodate the 3 million tourists who visit the Capitol each year.

A great hall, with 30-foot ceilings and walls of sandstone and limestone, will be a welcoming point for visitors who now endure long lines outdoors in sweltering summer heat. Parts of the facility, particularly a 450-seat auditorium, will be used by Congress. A series of rooms will be designated for members of Congress to meet with constituents and guests. Spaces such as libraries and storage are planned for the future needs of Congress.

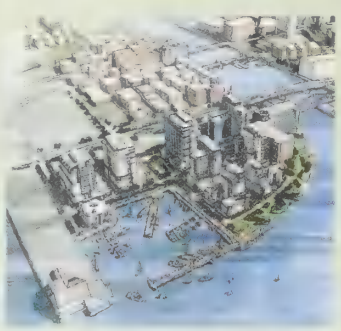
The architect of record for the 600,000-square-foot project is the Architect of the Capitol. The associate architect is RTKL Associates, and museum exhibits are designed by Ralph Applebaum Associates.

"The two great roles of the project," according to Bruce Milhans of the office of the Architect of the Capitol, "are accessibility and education. We really want this to be a learning experience for visitors to the building, so they can understand the history of the Capitol and the nation."

A loading dock and truck bays will be located below grade, preserving views of the Capitol while also camouflaging deliveries and enhancing security. *Ellen Sands*

Officials reach agreement on Fan Pier; shortlist announced for ICA

City of Boston and State of Massachusetts officials reached an agreement December 6 to proceed with the Fan Pier development (below), which could be the largest waterfront project in Boston's history. Fan Pier, proposed by Chicago's Nicholas J. Pritzker, is planned as a $1 billion development on the South Boston waterfront, adjacent to the U.S. Courthouse by Pei Cobb Freed and Partners. The Pritzker family, owners of the Hyatt hotel chain, assembled the coveted waterfront land over a number of years, and they are planning just under 3 million square feet of development in eight buildings, including offices, retail, approximately 650 condominiums, and two hotels. A new home for Boston's Institute of Contemporary Art (ICA) will be on the Fan Pier waterfront cove.



The master plan was developed by Toronto-based urban design and planning firm Urban Strategies, with Boston's CBT/Childs Bertman Tseckares. Landscape architect Michael Van Valkenburgh Associates will design the parks and streetscapes. Spaulding & Slye Colliers, the Pritzkers' Boston partner, is working with Urban Strategies on an architect selection process for each building; the only confirmed selection is RTKL for a Grand Hyatt. Construction on the first buildings will likely begin in late 2001 or early 2002, with buildings completed in phases from 2004 to 2007.

The proposed ICA would be the first museum to be built in Boston in nearly a century. On December 12 the ICA announced a shortlist of four architectural firms that will be vying for the museum commission this spring: Diller + Scofidio of New York; Office dA of Boston; Studio Granda of Reykjavik, Iceland; and Peter Zumthor of Haldenstein, Switzerland. The 60,000-square-foot, $35 million museum is scheduled for a 2004 opening. ***JEC***

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CIRCLE 16 ON INQUIRY CARD

Austrian Holocaust memorial by British sculptor Rachel Whiteread unveiled in Vienna

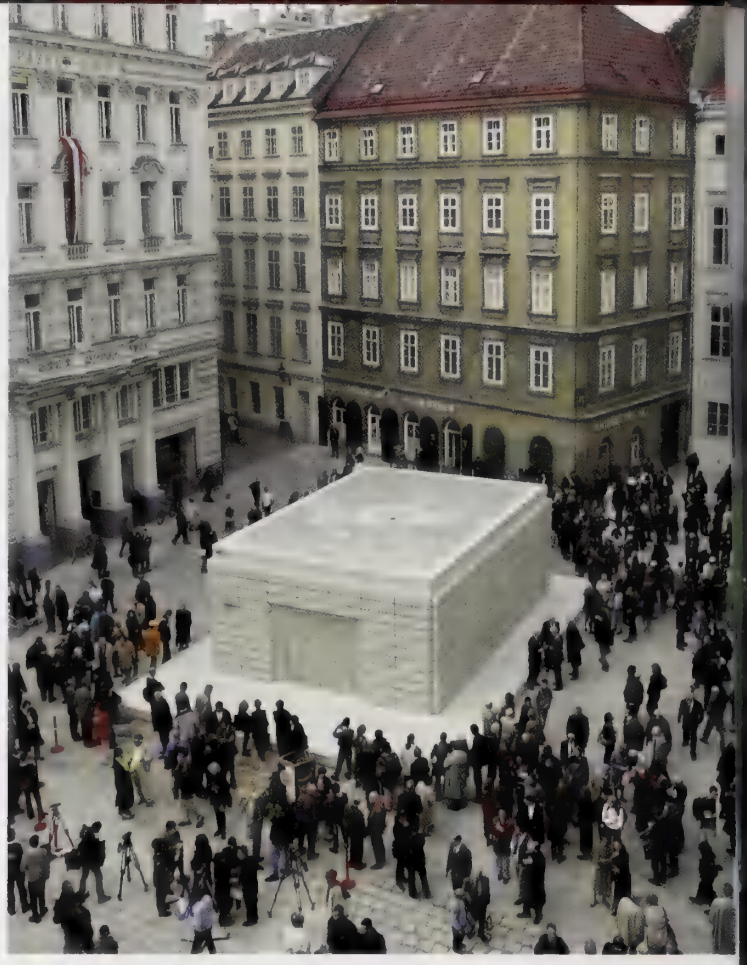
Fifty-five years after the end of the World War II, a memorial to the 65,000 Austrian Jews killed by the Nazis was unveiled this fall in Vienna. Designed by British sculptor Rachel Whiteread, the stark, concrete monument is a ghostly pale symbol of a gruesome past.

Whiteread, 37, won the international competition to design the monument in 1995, two years after she won the Turner Prize for Contemporary Art—the highest award in the British fine-art world—for "House," a full-scale concrete cast of a two-bedroom home in north London. Although there is clear creative continuity between "House" and the Vienna memorial, that's where the similarity ends.

The construction of the Holocaust memorial has been plagued by delays and controversy. From Vienna's chief rabbi to the Austrian president, almost everybody had an opinion about the memorial's appearance. The result was a five-year struggle from conception to completion.

Located in Judenplatz, the historic square in Vienna's Old Town where Mozart composed *Così Fan Tutti*, Whiteread's memorial is a dramatic interruption in the medieval streetscape. Standing 12 feet high, 24 feet wide, and 33 feet long, it takes the form of an inverted library. The doors do not open and the books' spines face inward on the eggshell-colored minimalist block. Unread book pages represent the countless unlived lives; the names of Nazi camps are inscribed around the block's base.

The construction of the memorial took place against a backdrop of far-right politics. Jörg Haider's Freedom Party has reminded Austria (and the rest of the world) of the threat posed by extreme nationalist politics. The memorial opened amid recriminations and accusations between Austria's political and religious institutions. One of the issues that Whiteread and the city authorities had to overcome was the question of whether building on top of a former synagogue (excavations revealed the remains of a medieval synagogue on the site) is against Jewish law.



The memorial to Austrian Jews killed in the Holocaust is in Vienna's Judenplatz.

Speaking after the October opening, Whiteread said, "It has taken five and a half years of sheer hell to get this done. Would I do it again? I truly don't know." Her next project, a transparent cube for a vacant plinth in London's Trafalgar Square, seems certain to be less traumatic. *Adam Mornement*

Donald Trump plans skyscraper for Berlin's Alexanderplatz

New York's best-known citizen—in Germany, at least—is planning a skyscraper for Berlin. Donald Trump is talking to city authorities about a $400 million mixed-use building in Alexanderplatz, which could include office space, apartments, a hotel, and a convention center. While an architect has not been chosen and details of the deal have not been finalized, Trump spokesman George Ross said a final decision on development was expected in December.



A tower by Donald Trump may be built (right in photo, near basketball court) in Alexanderplatz.

Among the busiest areas of the city before World War II, Alexanderplatz is one of Berlin's most famous sites. The area, heavily damaged during the war, was rebuilt by the German Democratic Republic in a mostly stark, brutalist style (left) in the following years.

After reunification, the city's planning department organized a 1993 invited competition for a new master plan. The winner of the eight-team competition was Hans Kollhoff, one of Berlin's leading architects. Kollhoff's design, which resembles Rockefeller Center, had 12 skyscrapers of equal height with brick curtain walls rising from a base of six-story structures. Construction never started on Kollhoff's plan due to a difficult market for office space.

The German newspaper *Die Welt* has reported that Hans-Ullrich Gruber, a Trump associate in Germany, claims that Trump has secured American companies as tenants. Because the property is city-owned, Trump is theoretically required to give the commission to Kollhoff—or at least to one of the 1993 competition participants. Among them are Daniel Libeskind of New York and Joseph Paul Kleihues, known in the U.S. for his Museum of Contemporary Art in Chicago.

The master plan limits the height of the towers to 450 feet. While tall for Berlin standards, it is short for Trump. Given the lack of developers, the city is inclined to allow Trump to build higher, as long as Trump's building does not surpass the 1,200-foot broadcasting tower, Alexanderplatz's postwar iconic landmark. Among local residents, though, there is already strong resistance to the "Manhattanization" of Berlin. *Eva Schweitzer*

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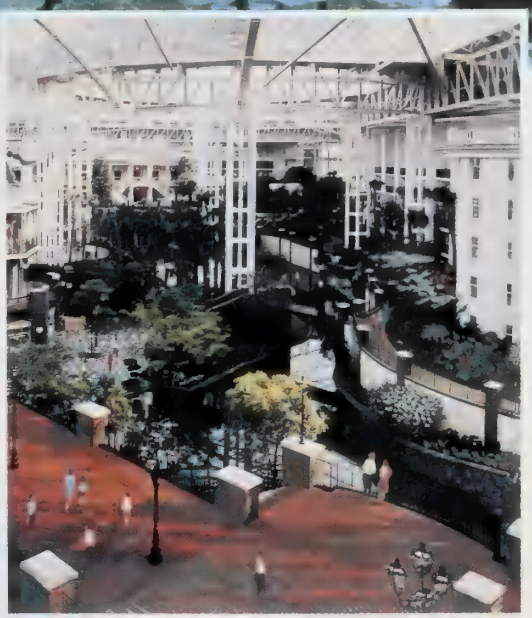
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Minneapolis train depot transformed into skating rink with two hotels

Only in the frozen north of Minneapolis could ice skating spark a major historic preservation effort. Now, thanks to a local consulting engineer's idea, a glass-enclosed ice rink opened in December in one of the few surviving long-span, truss-roofed train sheds in the country, Minneapolis' Milwaukee Road Depot. The 16-acre depot complex will soon be completely transformed, adding to the city's riverfront revitalization.

The 1898 depot, a classic Renaissance Revival landmark with clock tower, will be restored and linked to a new Marriott hotel. A second Marriott with indoor water park is also under construction opposite the train sheds. The hotels, by Minneapolis firm Elness Swenson Graham Architects, will be complete in spring 2001.

After Milwaukee Road trains stopped running in 1971, a parade of developers proposed a variety of grandiose plans for reuse of the complex, including a trade center, agricultural forum, and giant casino. All such schemes failed, but city interests persisted. In 1992 the Minneapolis Community Development Association (MCDA) acquired the property and began cleanup of the polluted site. Shea Architects of Minneapolis was retained in 1995 to refurbish the depot's pink granite facade. Brad Lemberg, an ice rink designer with Independent Consulting Engineers in St. Paul, measured the train sheds and convinced Shea Architects team that glass-enclosed ice rinks could easily fit inside the attached structures. When the pollution cleanup was completed in 1998, Shea and MCDA approached St. Paul-based developer, CSM Corporation, which, having handled many Marriott hotel adaptations, saw potential for connecting the depot with two hotels.

A new standing-seam metal roof tops the ice rink structure, with lacy steel trusses gleaming once again. Half of the ice rink is home to the Twin Cities Figure Skating Club, and the other half can be rented for special events. *Bette Hammel*



A landmark 1898 Milwaukee Road train depot is being transformed into a skating rink (left) with two hotels in downtown Minneapolis.

Ford Field, new home of Detroit Lions, will have luxury suites in adjacent warehouse building

The architects of Ford Field, future home of the Detroit Lions football team, hope to do for football stadium design what Baltimore's Camden Yards did for baseball stadiums—elevate a once routine building form into something special that engages the nearby downtown.

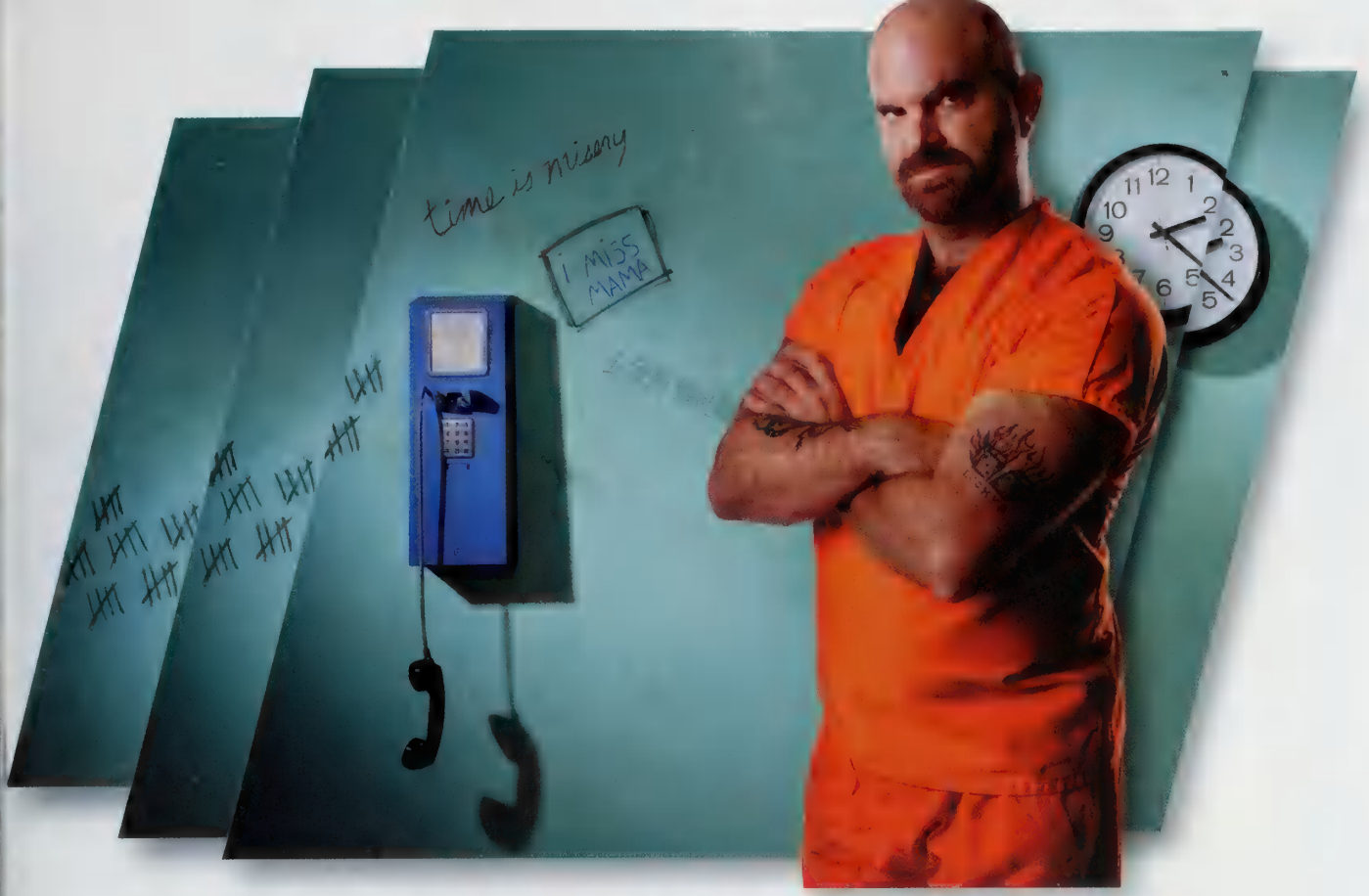
Design architects Rossetti Architects of Birmingham, Mich., and architects of record the SmithGroup of Detroit fit the oversized stadium sensitively into the surrounding streetscape. The playing field will be built 45 feet below street level, and most of the 65,000 seats will also be below street level, close to the field. The result is a smaller stadium profile that blends with surrounding buildings.

Now under construction next to Comerica Park (the new home of the Detroit Tigers baseball team), Ford Field will be ready for the 2002 football season. Along with the nearby renovated Fox Theatre and the Detroit Opera House, both elegant makeovers of 1920s movie palaces, the $250 million Ford Field will complete the main elements of Detroit's evolving sports/entertainment district.



Plans show a stadium with a six-story glass atrium, views of the Detroit skyline, luxury suites built into a historic landmark building forming one side of the structure, and an indoor street of restaurants and shops similar to Underground Atlanta.

The stadium's most dramatic feature will be the incorporation of the historic six-story Hudson's Warehouse, once used for department-store storage. Approximately 120 suites will be built into three warehouse levels. Developers have set aside other portions of the warehouse for future amenities, including restaurants, shops, sports bars, and perhaps even a hotel. ***John Gallagher***



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CIRCLE 19 ON INQUIRY CARD

Rijksmuseum to select architect for $180 million renovation

In a cultural project of unprecedented scale in the Netherlands, the national Rijksmuseum in Amsterdam is planning a $180 million renovation to enhance exhibition space. The museum, which opened in 1800, will restore the 1885 neo-Gothic building by Pierre Cuypers; add new shops, restaurants, and an auditorium; and reopen two interior courtyards, which will serve as public squares.



A renovation is planned for Rijksmuseum in Amsterdam.

Seven architects have been invited to complete preliminary designs in a competition. Three of the invited architects are Dutch: Cees Dam of Dam & Partners, Hubert-Jan Henket, and Erik Knippers. The other four are Paul Chemetov of Paris, Heinz Tesar of Vienna and Berlin, Cruz & Ortiz of Seville, and Francesco Venezia of Naples. An architect will be chosen in spring 2001, and renovations will begin in late 2003. The museum's south wing will serve as a sort of mini-Rijksmuseum for the duration of the project. The museum is scheduled to reopen in 2006.

The Rijksmuseum and Amsterdam's Stedelijk Museum for Modern Art, which has longstanding plans for an extension by Portuguese architect Alvaro Siza, may be closed at the same time. However, art lovers in Amsterdam can enjoy the Kisho Kurokawa addition to the Van Gogh Museum, which opened in 1999. *Tracy Metz*

GSA co-hosts Mayors Institute focusing on federal structures

Mayors from five U.S. cities convened at the American Institute of Architects headquarters in Washington, D.C., in December for the 14th annual Mayors Institute on City Design, which focused on how federal buildings are tools for community and economic development. Participants included mayors of Cedar Rapids, Iowa; Gulfport, Miss.; Laredo, Tex.; Rochester, N.Y.; and Springfield, Mass. Conducted as a roundtable discussion and ideas symposium, the institute offered the mayors an opportunity to present a specific design project from their community and solicit input from a resource team of architects, planners, and government representatives.



Mayors Institute participants

The institute is a partnership between the National Endowment for the Arts, the U.S. Conference of Mayors, and the American Architectural Foundation. The U.S. General Services Administration (GSA) co-hosted the event for the first time this year. GSA, which constructs and manages federal government buildings, has taken on a growing role in urban planning issues and increased its involvement with local communities. "We make real-estate decisions every day that have real impact on people and their communities," notes Hillary Altman, director of GSA's Center for Urban Development.

The new partnership with GSA is one example of the recent trend in which cities accomplish their longterm planning and development goals by joining with GSA. "This is what cities are doing today, and it's where the GSA can make a difference in the decision-making process," says Altman.

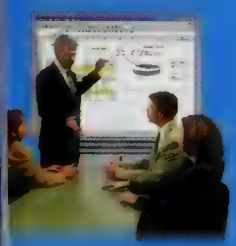
Each mayor presented a project and a list of questions for the resource team. Projects ranged from a new county courthouse in Gulfport, Miss., to a border bridge and resulting revitalization of downtown Laredo, Tex. In each case, the mayor received input from the resource team regarding topics such as economic incentives to spur growth and methods to link pedestrian and vehicular traffic. *Ellen Sands*

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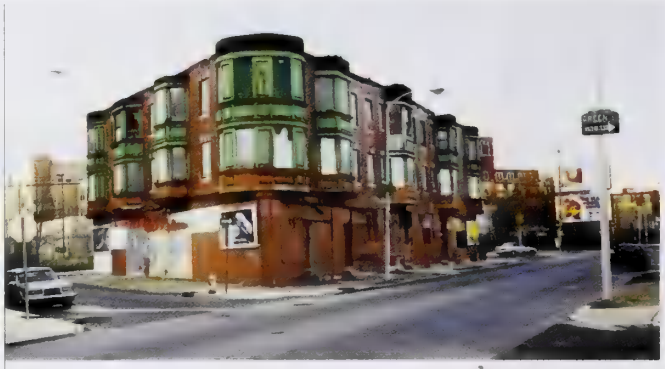
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CIRCLE 21 ON INQUIRY CARD



Neighborhood Transformation Initiative to remedy Philadelphia blight

More than 25,000 residential and commercial structures in the City of Philadelphia are in danger of immediate collapse. After months of working with volunteer task forces from the city's most heavily blighted neighborhoods to resolve the problem, Philadelphia Mayor John F. Street presented a $250 million Neighborhood Transformation Initiative (NTI) to City Council on November 1, 2000.

Along with mass demolition, this anti-blight plan encourages property redevelopment and neighborhood reinvestment through an early acquisition program that grants property ownership before official ownership is approved. The NTI calls for $130 million to tear down buildings deemed in danger of immediate collapse, $40 million to demolish scattered residential buildings, $20 million to tear down decaying commercial and industrial buildings, $55 million for home-improvement loans and property acquisitions, and $5 million for a computerized inventory system to track the program. In two months between August 2 and October 21, 2000, more than 200 collapsed properties were demolished, costing the city $2 million.

"This program is not just about demolishing buildings," says AIA Philadelphia 2001 president Janis Woodcock, AIA. "It is about working beyond the scope of the anti-blight initiative to redevelop the entire city."

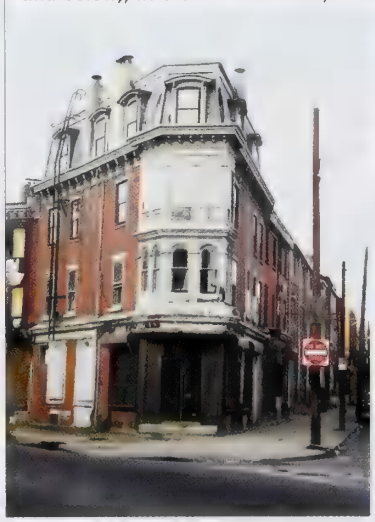
NTI Director Patricia Smith agrees. "We are seeking a long-term redevelopment solution that will redefine Philadelphia's built environment. This is not just a plan to get rid of blight. This is a social, economic, and cultural redevelopment project."

The program, recalling Philadelphia founder William Penn's "green countrie towne" vision, seeks to redesign rowhouse neighborhoods into housing configurations of lower density with more green spaces.

On December 5, 2000, the city announced its first redevelopment project: After winning a Pennsylvania Housing Finance Agency grant under Smith's counsel, the Latino community group Asociación de Puertorriqueños en Marcho (APM) will build 50 three-bedroom houses, complete with private yards and parking, in North Philadelphia. Federal agencies and the Pew Charitable Trusts will provide supplemental funding for this $3 million project, scheduled to begin in February 2001.

Joseph Dennis Kelly II

Philadelphia Mayor John F. Street has introduced a plan to aid the city's blighted neighborhoods (above and below), where more than 25,000 structures are in danger of immediate collapse.







WHY INDIANA STATE UNIVERSITY RELIES ON SLOAN SHOWERHEADS

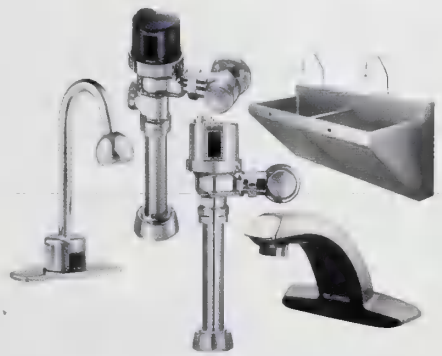
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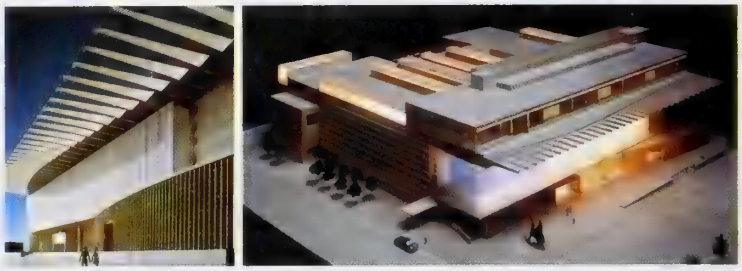


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CIRCLE 22 ON INQUIRY CARD

News Briefs



The Austin Museum of Art's curved wall of glass with aluminum fins (left).

Museum as projection screen A design for the Austin Museum of Art by Gluckman Mayner Architects has been approved by the museum's board of trustees. Groundbreaking is set for this spring. The 141,000-square-foot building, scheduled to open in 2003, will have 10 galleries, an education complex, and a film center. At the Art & Technology Gallery there will be an exterior wall of translucent glass onto which images can be projected at night. Most of the exterior will be clad in horizontal scallop-patterned panels of precast concrete. A public roof terrace will run the length of the two-story building and is intended for special events. Galleries will have natural light with a cast-in-place skylight system.

AIA has toll-free number for services The American Institute of Architects (AIA) has a new toll-free phone number to access fax-on-demand and member-services assistance: 1-800-AIA-3837.

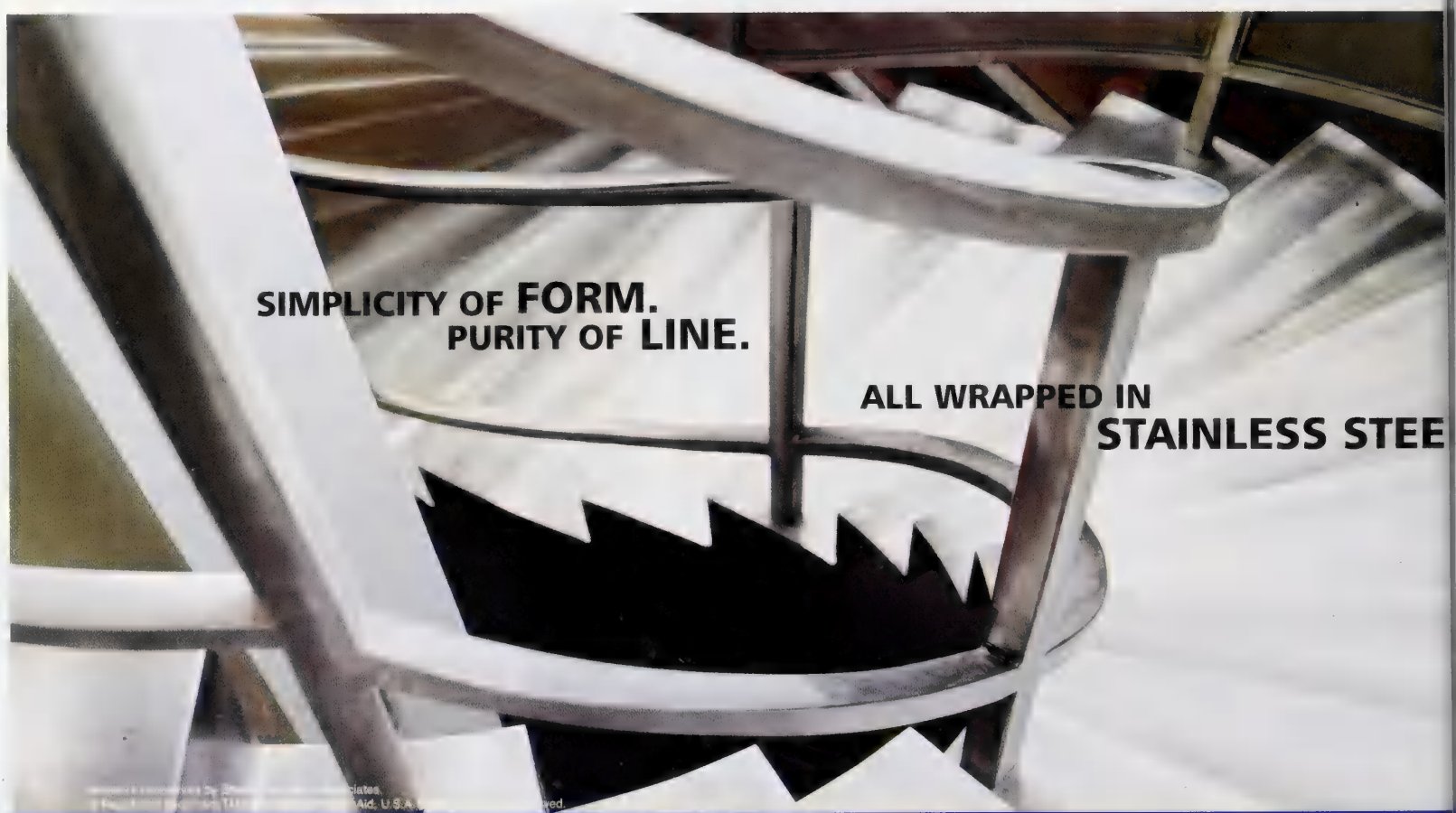
AIA may enter agreement with exhibition company for national convention The AIA's board of directors, at its December meeting, authorized management to enter into negotiations for the possible sale of a 49 percent interest in the AIA's national convention asset to Reed Exhibition Companies. A governance policy for preserving proceeds from resulting sales will be developed.

Hollywood producer to head Drexel architecture program Jonathan Estrin, a Hollywood producer, director, and writer, has been named dean of Drexel University's College of Design Arts, which has degree programs in architecture, interior design, graphic design, photography, and fashion design. Estrin will soon have masters programs in architecture and industrial design. Estrin produced 44 episodes of the television show *Cagney & Lacey* and the 199? mini-series *Danielle Steel's Jewels*, and he has been nominated for Emmy, Golden Globe, People's Choice, and Cable ACE awards.



Estrin

Foundation established in Hejduk's memory Soundings: The John Hejduk Foundation for Architectural Research has been established in memory of John Hejduk, former dean of the Irwin S. Chanin School of Architecture at the Cooper Union in New York City. Hejduk died of cancer on July 3 at age 71. The foundation will award 13 fellowship stipends annually in various disciplines, including architecture and design arts, book arts, writing, history, theory, music composition or sound, and the visual and medial arts. Soundings will also raise funds to build Wall House 2, designed by Hejduk in the early 1970s. To learn more, visit www.soundingsfoundation.org.



CIRCLE 23 ON INQUIRY CARD

News Briefs

Harry Weese Associates becomes part of Gensler Chicago firm Harry Weese Associates is closing its office and joining Chicago's Gensler office, the two companies announced December 5. Two Weese partners, James Torvik, AIA, and David Munson, AIA, will join Gensler, and job offers will be made to the rest of Weese's staff of about 25. Gensler has about 2,500 employees worldwide and had 100 employees in Chicago before the deal. The Weese name will no longer be used by Gensler. Harry Weese designed the original Washington, D.C., Metro subway stations.

AQUA mixes Modern buildings with New Urbanist plan A number of notable architects have designed buildings for AQUA, a high-end residential community on the southern tip of Allison Island, off Miami Beach. Duany Plater-Zyberk completed the master plan for the 8.5 acres, which will include 46 island homes, three mid-rise loft and condominium apartment buildings, as well as a day-care center, health club, and offices. Architects designing individual buildings include Hariri and Hariri, Alison Spear, Walter Chatham, Alexander Gorlin, Brown and Demandt, and Emanuela Frattini Magnusson. Although the community is planned by New Urbanists, most of the buildings are intended to be Modern. Construction begins this year and will be complete in 2003.





AQUA will be a high-end residential island community of modern buildings.

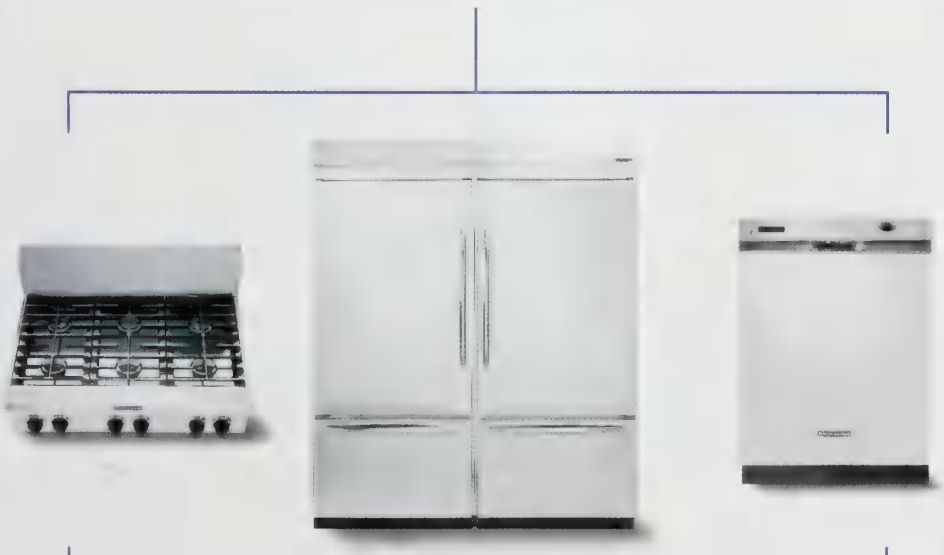
NAAB to oversee EESA for NCARB The National Architectural Accrediting Board (NAAB) is the new provider of architectural education evaluation services for the National Council of Architectural Registration Boards (NCARB), as of January 1. The NAAB will oversee Educational Evaluation Services for Architects (EESA), which assists individuals who wish to apply for NCARB certification or for registration by an NCARB member board and who do not have a professional degree in architecture from a NAAB-accredited school of architecture. EESA often works with internationally educated applicants and broadly experienced architects without a professional degree.

Jáuregui wins Harvard GSD Green Prize The Harvard University Graduate School of Design awarded the Green Prize to architect Jorge Mario Jáuregui and his firm Jorge Mario Jáuregui



Community building by Jáuregui

Architects in a December 6 ceremony. Jáuregui received the award for his groundbreaking work in revitalizing Rio de Janeiro shantytowns with new public buildings (above), public plazas, and roads. The Green Prize is awarded biannually to recognize excellence in urban design internationally, and it has a cash prize in excess of $20,000. An exhibit of the work of Jorge Mario Jáuregui Architects continues at GSD through January 12.

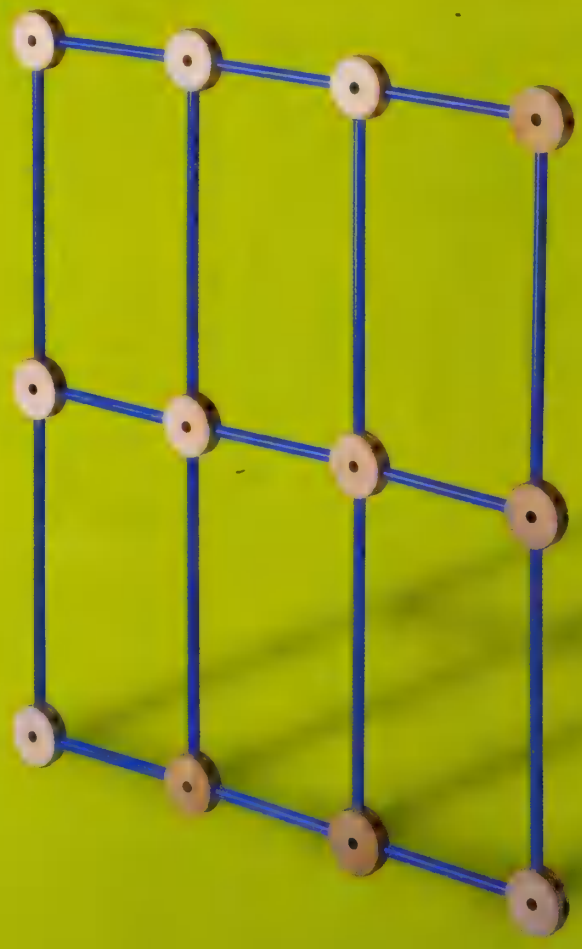


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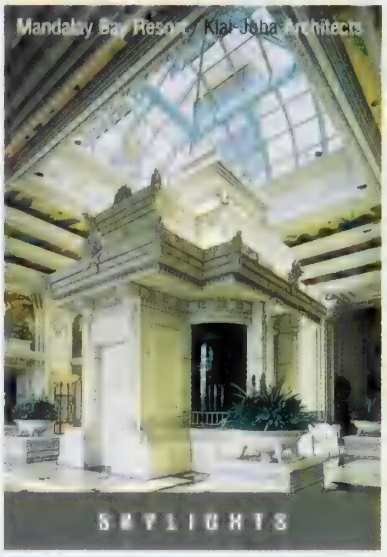
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CIRCLE 25 ON INQUIRY CARD

Istanbul: Where sultans' palaces meet new architecture

Correspondent's File

By Bette Hammel

With its domed mosques, tapering minarets, majestic Ottoman palaces, and magnificent site at the confluence of the Bosporus Straits, Istanbul became famous through the ages as the crossroads of civilization. Today, its romantic history confronts architects with increasing challenges as they struggle to blend shiny new office towers with historic buildings of the past. Compounding these problems are the ever-growing masses—currently 13 million people live in Istanbul.

"It's not easy to have a master plan when there are 500 people moving in every day," says architect Dogan Hasol, an editor at *Yapi* magazine and vice president of the Istanbul Foundation of Architecture. "We have good architects and bad architecture," asserts Hasol. "The problem is the city is very large and very populated, so we don't have consistent plans and the land is often occupied illegally. This situation causes big problems for good architects."

Hasol says most new buildings should be kept at the edge of the city or built around Istanbul's three zones. Fortunately, in the old city—where the Blue Mosque, Hagia Sophia, and Topkapi Palace still stand as works of centuries-old architecture—a master plan restricts building height. However, no plan exists across the Golden Horn—the old harbor—in the more European district. "We made mistakes in this area, like building high-rises behind palaces. We changed the skyline of Istanbul," laments Hasol.

At Süzer Plaza, he points out the Gokkafes, a 40-story blue glass skyscraper topped with a red house-shaped grid and designed by local architects Doruk Pamir and Ercüment Gumrük. The skyscraper was recently completed on what had been green space behind the 19th-century Dolmabahce Palace. Istanbul has some examples of good contemporary architecture, but they are spotty.

Skyscraper district

Most of the new towers are now clustered in a skyscraper district located off two major highways and a busy thoroughfare. One complex completed in August, the Is Bank, occupying 2.3 million square feet, stands out for its distinctive Western-style contemporary design. Is Bank is one of Turkey's oldest and largest financial institutions. Designed by the New York firm Swanke Hayden Connell Architects (SHCA), the $150 million complex consists of three similar towers on a four-story granite base. The tallest tower, at 50 stories, will be the bank's main headquarters. From the 41st floor up, the largest tower steps back in a zigzag sawtooth. One of two matching 34-story towers is owned by a bank holding company, Sise Cam. The third is leased to a number of companies. Constructed of blue insulating glass with aluminum frames and stainless-steel bands at parapet level, the Is Bank complex stands out along Istanbul's skyline.

SHCA principal architect Altan Gursel admitted that while the firm was excited about working with the client, there are difficulties in working in Turkey. Project architect Anadi Dutta, who worked closely with the contractor, the Tepe Group, insisted on using American standards of construction. Because Istanbul is located in Turkey's earthquake zone, special consideration was given to provide up-to-date seismic design for the tower's structure, curtain wall, and granite applications.

Since the recent catastrophic earthquake in Turkey, which heavily damaged poorly built housing developments on the outskirts of Istanbul, quality housing continues to be a critical architectural issue in burgeoning Istanbul. Following new governmental regulations for controlling structural design, restrictions for building in the earthquake zone were lifted last fall. Hasol says homes were built on loose soil without proper structural knowledge. Now the government is constructing many new houses and opening up a bidding process. People are living in temporary housing or tents while architects work furiously on plans for affordable new housing.



Istanbul, Turkey, on the Bosporus, has been the capital of three empires.

Turkish suburbs

A lively economy is boosting construction overall in Istanbul, and a few local architects are designing high-end residential communities. M&N Butler Mimariar, which practices in Çengelköy on the Asian side of the Bosporus, is one firm involved in a large development project aimed squarely at young professionals.

Bette Hammel, a freelance journalist based in Minnesota, specializes in architecture.

Correspondent's File





Swanke Hayden Connell's Is Bank complex (left) features a colorful lobby.

Casaba, a development of more than 800 homes, is located on forested lands north of Istanbul on the Asian side. Principal architect Mark Butler says it is one of the area's first large-scale housing development aimed at the upper-income group. More than 200 houses have already been sold. Housing types vary from single-family two-story units to rowhouses and one-story homes. "We tried to get a lot of variation into the project with fairly subtle designs," says Butler. Facades of the houses are basically stucco with some wood cladding and shingle roofs. In typical American style, Casaba will have a village center with pool, social club, and other amenities. Many other Turkish and foreign consultants, from various design disciplines, are also providing services in the Casaba project.

Turkey has more than 35,000 architects, with nearly 12,000 in Istanbul alone. Those working privately must be members of the Chamber of Architects, while those employed by the government do not. The Chamber is primarily a registration office, not a professional organization like the American Institute of Architects (AIA), but through the Istanbul Foundation of Architecture, members are striving to establish an AIA equivalent.

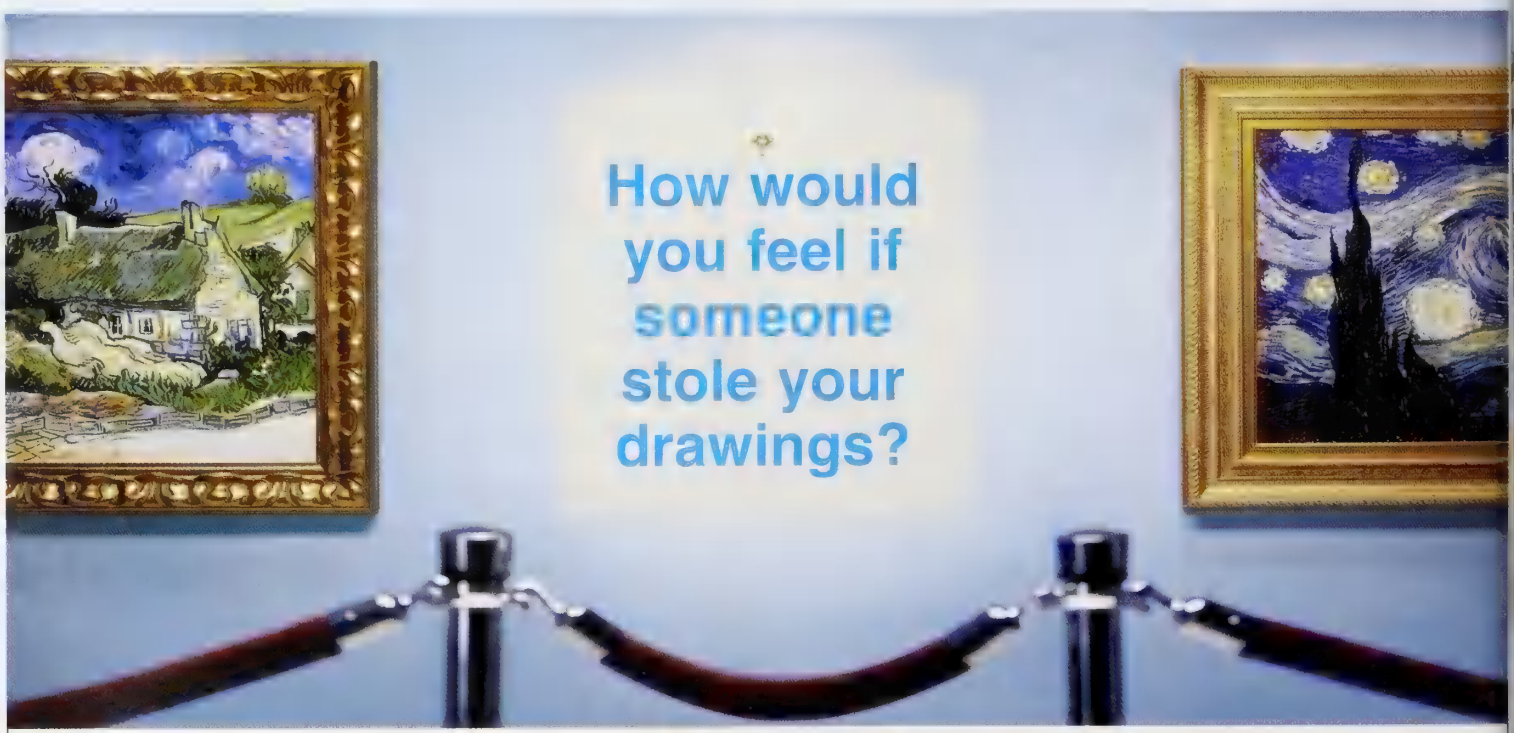


Turkish dream? Prototypes for a residential community called Casaba.

Americans learn the ropes

Although American architects may find it difficult to carry through their projects in Turkey, offices like SHCA have learned the ropes. The American Consulate currently has plans for a new headquarters building in Istanbul by Zimmer Gunsul Frasca Partnership of Portland, Ore. ARUP International has a Turkish office and designed the Istanbul Culture and Congress Center currently under construction.

Today Istanbul is a modern city in every way. Like other cities of its size, it is furiously debating the merits of building a subway system, new bridges, and more stadiums. No doubt that the steady stream of high-rise tower construction will continue. The hope is that visionary leaders, architects, and planners will retain and enhance the past of this city while still pursuing the new. ■



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CIRCLE 26 ON INQUIRY CARD

Our image culture and its misguided ideas about freedom

Critique

By Juhani Pallasmaa

oday's architectural publications roject an air of self-assurance, xcitement, and optimism, present- g alluring formal innovations as ignature objects of art. Concealed eneath an explosion of architec- ural imagery, however, is a less ncouraging prospect: architecture becoming an endangered art rm. Architecture is threatened by vo opposing tendencies of our bsessively materialistic and hedo- istic culture: paradoxically, shrewd echno-economic exploitation simul- aneously turns buildings into instru- ents of vulgar utility and objects of alculated visual seduction.

We live in an era of shallow, omentary impressions that mphasize image over essence in verything from individual behavior fashion and politics. Even build- gs compete for attention with nsumer lifestyle commodities. But collection of idiosyncratic buildings oes not make for a sane architec- ural culture. The role of architecture not to entertain or thrill us but to ructure our understanding of the orld and of our very existence, to ticulate how the world touches us, use an expression of Maurice erleau-Ponty. Architecture creates ames for action, thought, and motion. It gives expression to uman institutions and establishes hierarchy for them. It articulates the interplay between background and foreground, normality and uniqueness, grayness and color, the commonplace and the celebrated.

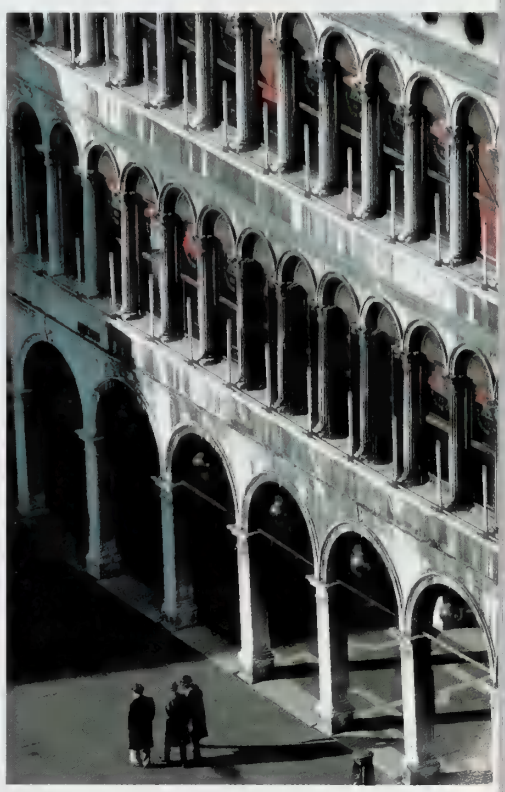
Today's architecture, however, seems to have become increasingly detached from its cultural context and collective soil. As a consequence, architecture is losing its authentic existential ground and turning into aesthetized fabrication. Instead of structuring and integrating experience, our buildings frequently contribute to disorientation and meaninglessness.

One reason is that the values and ideals of the architectural profession have become confused. Formalism and whim have replaced a sense of balance, arbitrariness has replaced reason, and arrogance has replaced compassion. True architectural talent is not to be found in the realm of formal or spatial fantasy but in an understanding of the essence and hierarchies of the human landscape and mind. Architecture calls simultaneously for expression and restraint, innovation and a consciousness of history, courage, and modesty.

Disturbing conservatism

A particularly disturbing aspect of today's image culture is an architectural conservatism that wishes to impose classical attributes on modern buildings. An example is the building designed for 21st-century scientific uses but clad in quasi medieval garb. Architecture is one of our most fundamental existential expressions, and it communicates simultaneously on several levels. We are usually affected only by the surface message and ignore the unintentional unconscious messages, but they are the most significant ingredient in a work of art. In my view, the message of concealing science and technology behind medieval architectural elements is clear and alarming. It is a rejection of the contemporary world, a reflection of a disoriented, split identity, and an alarming cultural escapism. In 1934, when the world was focused on the rise of Fascism, the American Modernist architect George Nelson interpreted the Third Reich's classicizing stone architecture, whose overt purpose was to evoke authority and awe, as an unconscious tendency toward self-destruction. He recognized that classicism's dark side carried unintended architectural symbolism. Today we need an equally penetrating analysis of the secret architectural expressions of our age. What should we make, for example, of the necrophilia expressed by some of the most technologically advanced buildings in history, some contemporary hospitals and international airports?

Architecture that focuses on aesthetic effects emphasizes the photogenic, instantaneous qualities of visual imagery detached from existential reality. One reason that buildings have lost their tectonic presence and material authority is that our speed- and control-obsessed culture favors an architecture of the eye that provides instantaneous imagery visible from a distance. A tactile architecture, by contrast, promotes intimacy, appreciated and comprehended gradually like images of the body and the skin. In *Touching: The Human Significance of the Skin* (1971), Ashley Montagu writes, "We in the Western world are beginning to discover our neglected senses. This growing awareness represents something of an overdue insurgency against the painful deprivation of sensory experience we have suffered in our technologised world." Touch, not vision, is the sensory



Calming repetition in the Procuratie Vecchie on St. Mark's Square in Venice.

hani Pallasmaa, a practicing archi- ct and professor of architecture at e University of Technology in elsinki, is the author of several oks, including Eyes of the Skin: rchitecture and the Senses.

mode that integrates our experience of the world and ourselves. It unites even visual perceptions and integrates them into an extension of the self. Tactile experience evokes the experience of a temporal continuum. Vision, by contrast, places us in a continuous present. The flatness of today's architecture extends to temporal experience; we live in a world of flattened time.

The prevailing flatness of buildings is reinforced by today's construction processes and a weakening sense of materiality and craft. In addition, computer imaging reduces the plasticity and emotive power of architectural structures to two dimensions. It is disturbing to think that, in the era of the high-tech image, our innate capacities of imagination may be becoming impoverished.

Beauty is always the result of nonaesthetic, often mundane concerns, such as a quest for precision, truthfulness, sincerity, or simplicity. Beauty that takes a lasting hold of our emotions arises from a full sense of life, with all its complexities and contradictions, not from mere visual imagery or sensory pleasure. True artistic beauty, unlike momentary seduction, projects a timeless and unattainable ideal. Buildings are not just visual compositions; they are magical, mediating structures that evoke and enhance images of life.

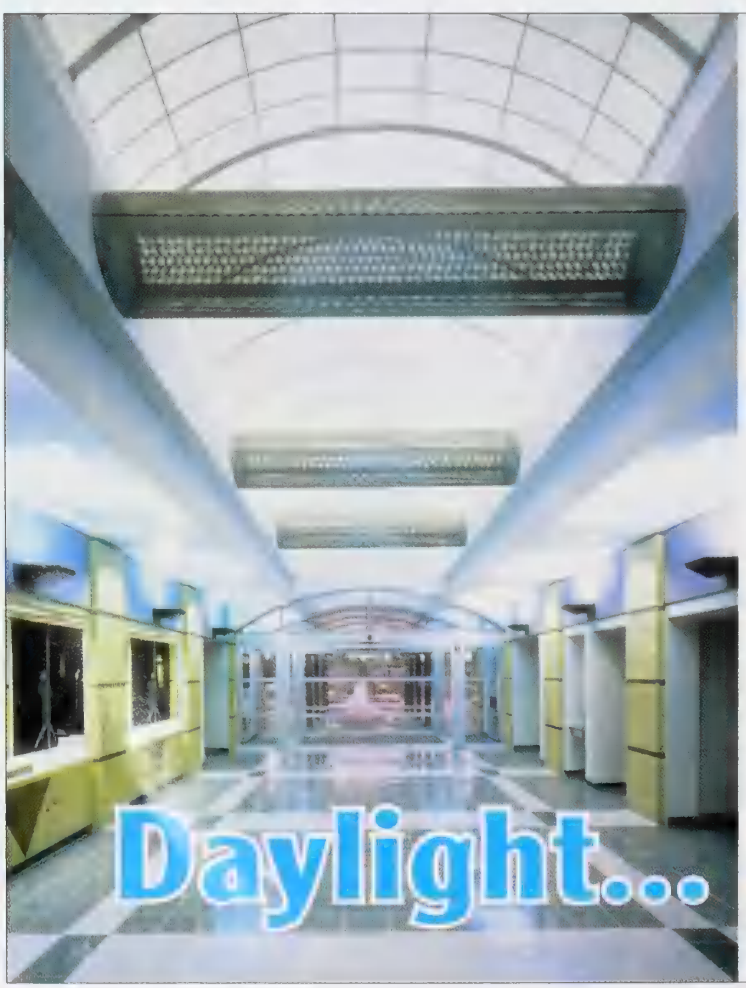
OUR INNATE CAPACITIES OF IMAGINATION MAY BE BECOMING IMPOVERISHED.

Today the cult of the eye and novelty has led, on one hand, to formal elaboration and articulation and, on the other, to reduction ad absurdum. But architecture is a discipline of noble restraint and repetitiousness; buildings are made up of repeated structural units and patterns of materials and detailing. One only needs to recall the noble and calming repetitiousness of the Procuratie Vecchie on St. Mark's Square in Venice, or of the buildings of Mies van der Rohe.

A mistaken notion of freedom is partly to blame for architecture's essential losses. Journals and juries praise projects for the "freedom" of their expression. Yet, great creative individuals hardly ever speak of such a shallow notion; they are concerned with the inherent limits and challenges of their discipline and its materials, not with attempting to emancipate themselves from these essential realities. In his seminal book *Escape from Freedom* (1969), Erich Fromm distinguishes between freedom from something and freedom for something. Fromm argues that our pursuit of illusory freedom deprives us of the ability to utilize our actual freedom.

The task of architecture is not to free buildings from anything but to weave them into an existing cultural continuum that has collective significance. A building moves us when it succeeds in reverberating with something concealed in our humanity, and when it echoes images and sentiments stored in our subconscious. Architecture is not a formal game or an exposition of novelties. Architecture is not an art form of pure self-expression. Architectural meaning resides in human experience. It is evoked in the acts of occupying and inhabiting space, in one's experiences of space, matter, gravity, and light.

A significant work of architecture is never the product of a single individual. It is always a collaboration with history and tradition, with the silent wisdom of the discipline of architecture. An architect who understands the essence of his craft accepts his role as a builder of a tradition, and he places his work in the context of this continuum with combined humility and pride. ■



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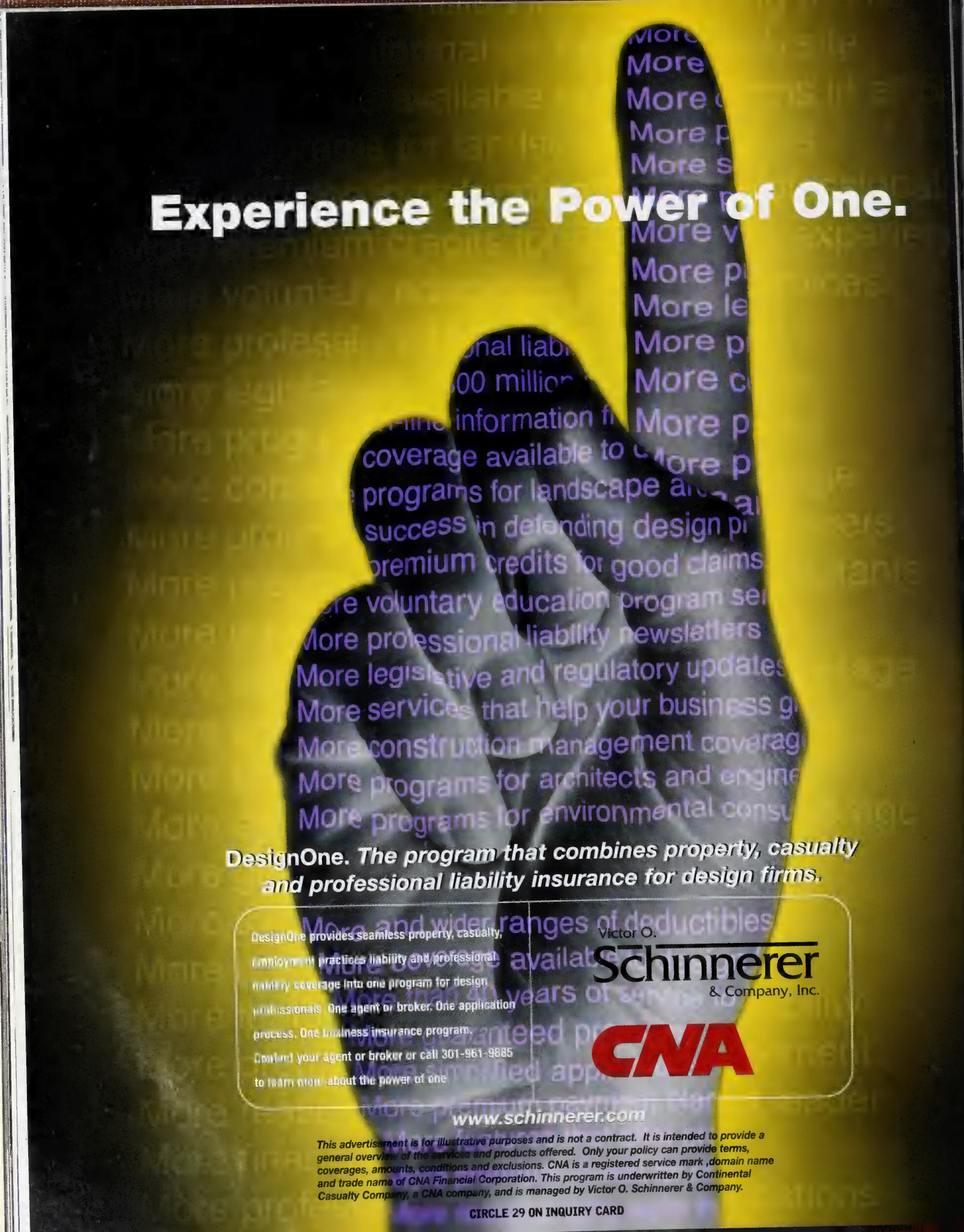
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CIRCLE 29 ON INQUIRY CARD

Civic engagement: The architect as a university leader

Practice Matters

By Harris M. Steinberg, AIA

Architecture is a social art. Indeed, a public trust exists between the profession and society-at-large. In their study *Building Community: A New Future for Architecture Education and Practice*, the late Ernest Boyer and Lee Mitgang argued that the future of the profession depends on our collective ability to advance the knowledge base of the profession, tackle complex social problems, and seek admittance to the highest levels of decision making within the worlds of business and politics.

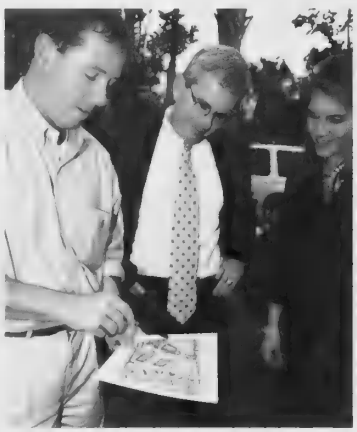
While architects have traditionally been involved in the social fabric of their communities—serving on planning commissions and design review boards—it has been estimated that up to 50 percent of architects do not enter traditional practice. What happens when the architect steps out of his or her traditional role and enters another profession? Does this person cease to be an "architect"?

James Barker, FAIA, feels that he has never ceased to be an architect, even though he is now president of Clemson University in Clemson, S.C. He earned the president's chair after having successfully distinguished himself in both the worlds of traditional practice and academia. Barker didn't set out to become a high-level academic. After receiving his bachelor degree in architecture from Clemson in 1970, he worked in a traditional practice setting before returning to school to obtain a master's degree in architecture and urban design from Washington University in St. Louis in 1974. After graduate school, Barker began practicing and teaching. He served as dean of the School of Architecture at Mississippi State before returning to Clemson in 1986 as the dean of its College of Architecture.

During that time Barker was given a rare opportunity. Asked to help reorganize the university's nine colleges into four, he helped create Clemson's new College of Architecture, Arts, and Humanities.

The college gives students the opportunity to see how the design studio experience applies to many other disciplines. "Suddenly students in the humanities were involved in studiolike experiences," says Barker. This pedagogical model has since moved to other colleges and disciplines at Clemson, in engineering and the sciences, for example, affording students across disciplines the ability to engage in "project-based teamwork in which students step out of traditional classroom settings and solve real problems." In 1999 Barker was appointed president of the university.

Energized by the academic cross-pollination that is occurring at Clemson, Barker believes that there is more work to be done. "I think that it's time for architectural education to move from the intellectual fringe of the campus to its very heart." The architecture faculty at Clemson is committed to this new curriculum, which uses the humanities to help its architecture students become more engaged in culture and which requires all architecture majors to have a minor degree. "It's most likely the minor will be in one of the humanities," says Barker. "We also require four years of foreign language study. All of this is aimed at saying, 'If you want people to be at the center of culture and society when they graduate, you must educate them at its center.' We have to teach architects so that they feel comfortable within the center of culture instead of at its edge."



As president of Clemson University James Barker, FAIA (center), has shown the studio education experience can apply to other disciplines, like engineering and the humanities.

"If you let me put the word 'practice' in quotes, I am practicing architecture. I am building teams of people to solve problems. I am trying to encourage creativity in members of that team and I am trying to use a nontraditional way of thinking about problems to help solve them." As an emissary of the architectural profession, Barker uses his position as university president to reach out to architects and encourage professional interaction and dialogue on campus-wide design issues.

"Every once in a while I'll review a set of drawings and have a presentation," says Barker. "We set up a series of morning presentations of work that is currently under way on campus. All of the firms that are working on campus arrange their schedules so they can be here and they all sit in on each other's work. It's like a jury and it's fascinating. The architects see what their colleagues are doing and they like the fact that I've tried to pull them into the conversation and treat it as a sort of exploration."

The road from architect to academic leader has been a long one. But what Barker has done is a good example of what Boyer and Mitgang have said that architects can do to assure that the profession will have an important role in determining the future of our profession. "A university president should have vision," he noted. "It is thinking about things architecturally and with creativity. It is thinking about the future with some degree of creativity and using your imagination and having a balance between rational and intuitive thinking, which architecture certainly prepares you to do. I can't imagine coming to this job without having had an architectural education." ■

Harris Steinberg is a founding partner of Steinberg & Stevens Architects. He is actively involved in the revitalization of Germantown Avenue in the Philadelphia neighborhood of Mt. Airy.



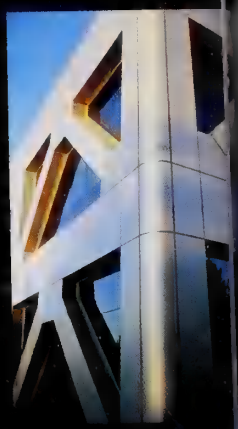


A Panel Discussion

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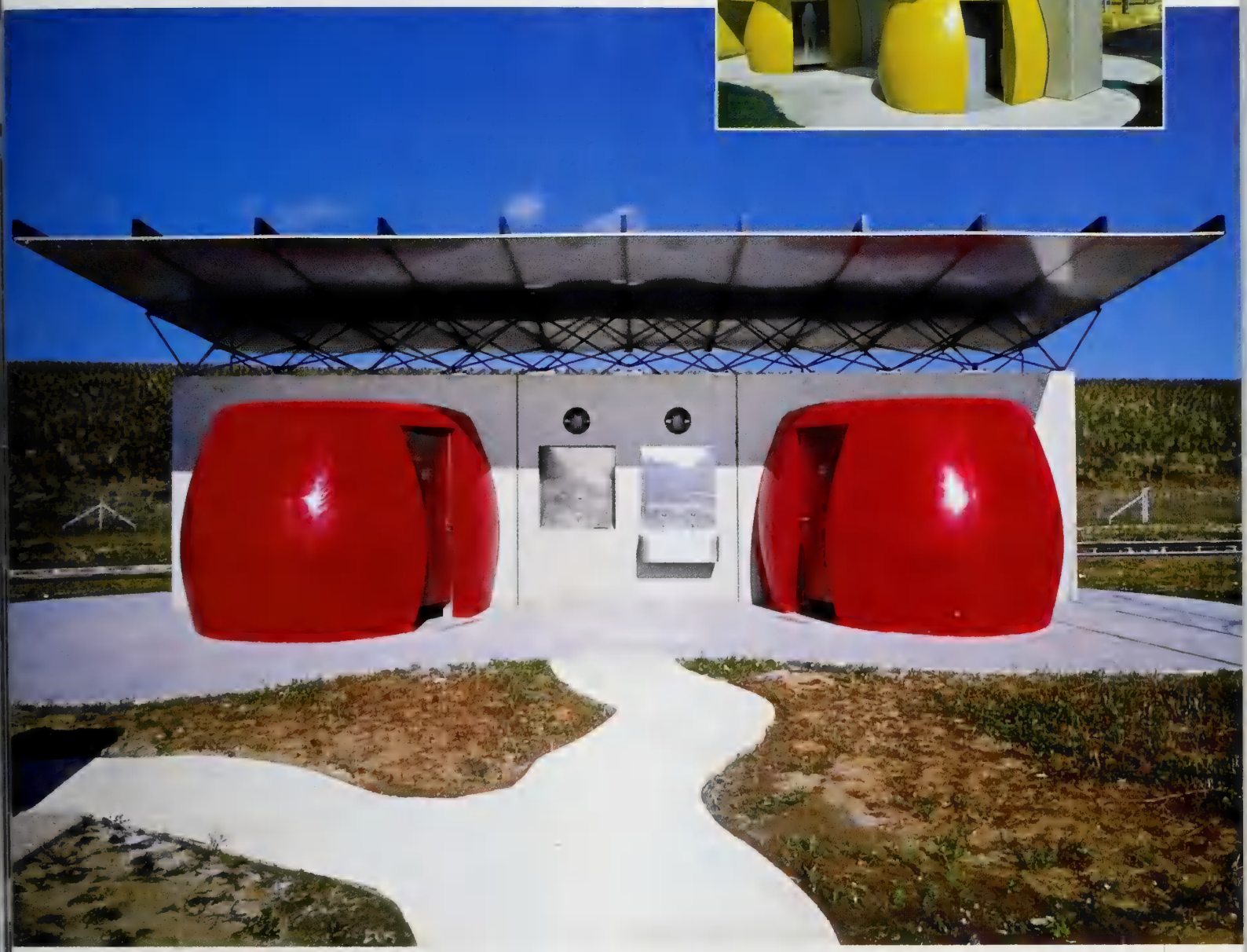
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CIRCLE 30 ON INQUIRY CARD

Snapshot





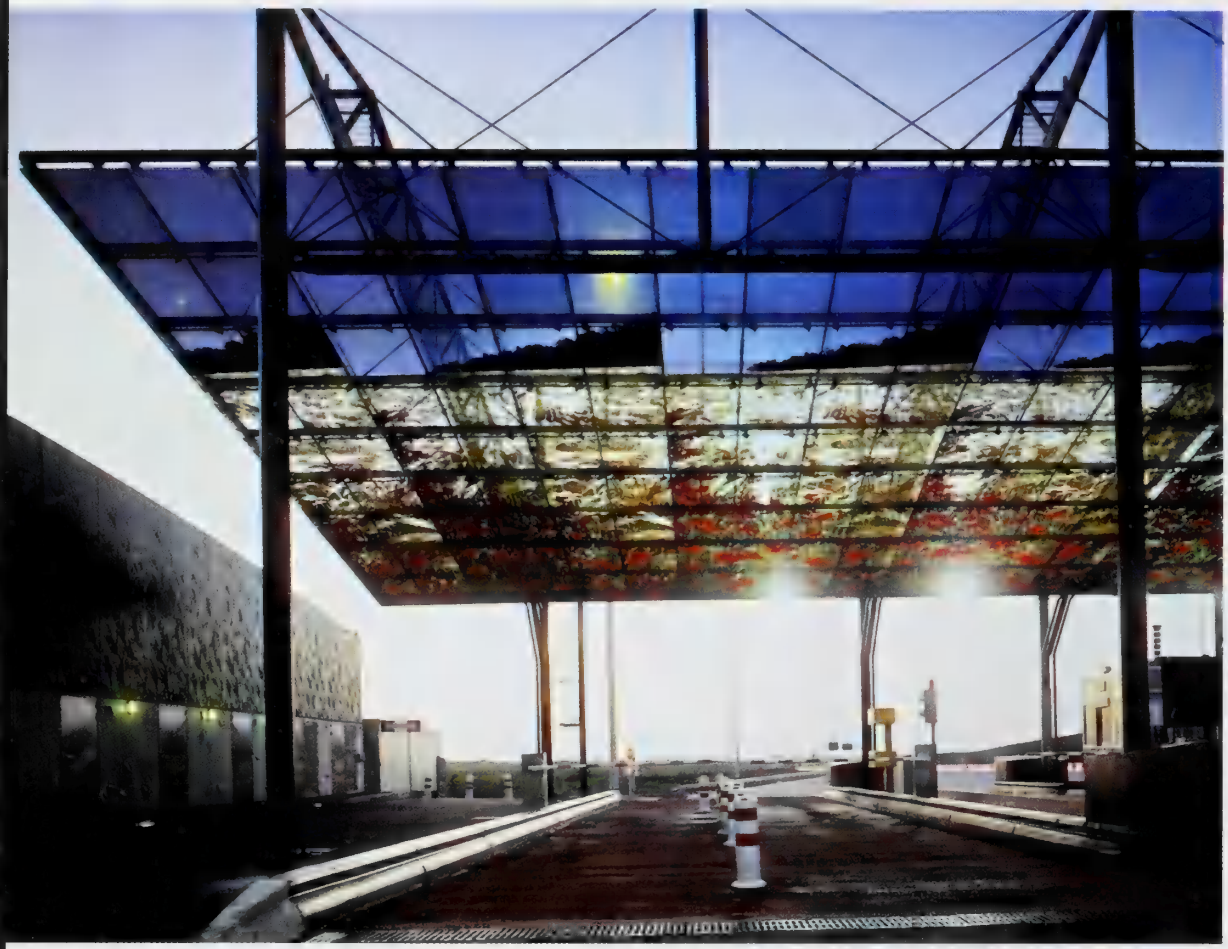
/ **Ingrid Whitehead**

Five French tollbooths put whimsy on the road

ance's Picardy region is known for its spectacular Gothic cathe-
als, stately châteaux, World War I battlefields and memorials, as
ell as the distinctive landscapes of the Nièvre valley and the white-
ffed coastline running from Boulogne to Calais. The ancient and
e modern meet up on the road in Picardy, and if you find yourself
ving your Citroën (vintage DS21M, 4-speed model, of course) through the region—perhaps from the capital
own as "the city of art and architecture," Amiens, to the channel-port town of Boulogne—you may be pleas-
tly surprised by the whimsical and modern attractions along the historic route.

Five tollbooth/rest stops designed by French architect Manuelle Gautrand stand out on the A16 motorway.
e Society of Freeways of the north and east of France (SANEF) hosted the competition for the toll stations—an
empt to offer motorists an alternative to the usual roadside stops, which were unimaginative structures
garded as unsafe and unclean. Gautrand's design addresses these issues with the use of innovative materials

Snapshot

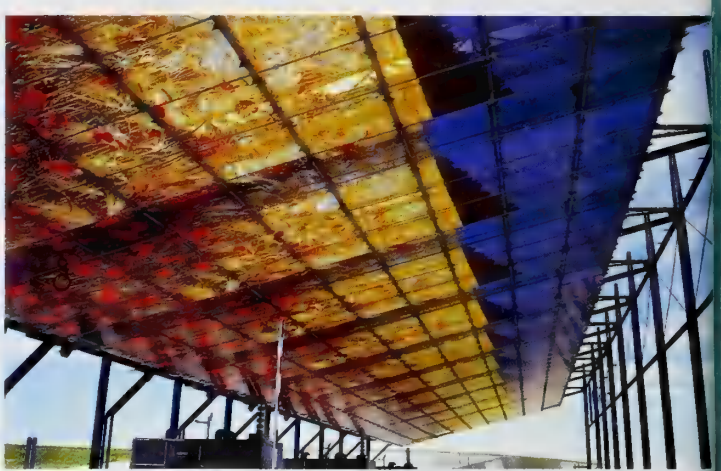


At the Abbeville Nord station in Boulogne (left), the imagery of red poppies luminously glows on the canopies overhead. The photographic images, reflecting the nearby regional landscape, have been enlarged 300 to 400 times. Playful round bathrooms (preceding page) provide a humorous accent to the colorful canopies.

and lighting, and offers motorists a moment of pleasing architecture on their route, whether or not they choose to stop. Like bright little jewels along the unbroken chain of highway, these structures are treats for weary traveler's psyches, as well as their eyes.

Huge serigraph silk screens on glazed canopies dominate the toll stations, with images reflecting the natural landscape. Travel along and you'll encounter: Abbeville Nord station, with imagery of brown and red fields of poppies; Côte Picarde, with greenery inspired by the forest of Crécy; Etaples/Le Touquet, with shades of ocean blue; Neuchâtel/Hardelot, a dark green aerial image; and Boulogne Sud, the end of the line brilliantly announced with bright yellows inspired by fields of oilseed rape. "Each image reflects a key aspect of the surrounding area," says Gautrand, "thus connecting travelers immediately with the region. I was inspired by the Gothic cathedrals, as well as the landscape." All the photographic images are enlarged 300 to 400 times, and whether day-lit or lamp-lit by night, exhibit a colorful luminosity not unlike stained-glass windows.

Other materials include leaf-shaped steel clamps for the glass and painted concrete walls and slabs under the canopies—a different color for each station. Bulbous toilet rooms constructed of bright polyester resin bring a humorous touch to the stops. Sinks are located outside the toilet areas, in traditional French style. The unique rest stops reveal that function and playfulness can meet up in the most unusual places, and provide moments along life's road whether or not your mode of transportation is a vintage French car. ■





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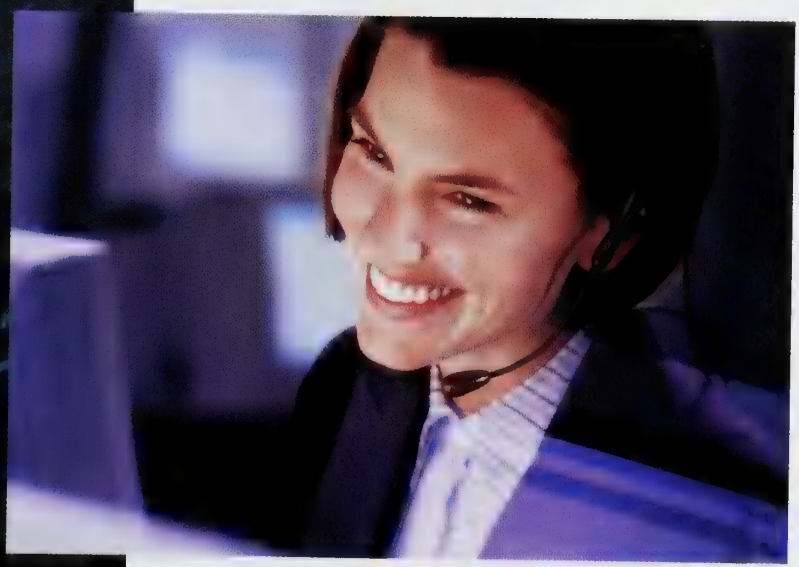
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CIRCLE 32 ON INQUIRY CARD

LIGHTING & BUILDING TECHNOLOGY combine to make a perfect match

This is the first of several features about how architects and technical innovators work together to advance the state of architecture, which RECORD *will run periodically throughout 2001.*

By Sara Hart

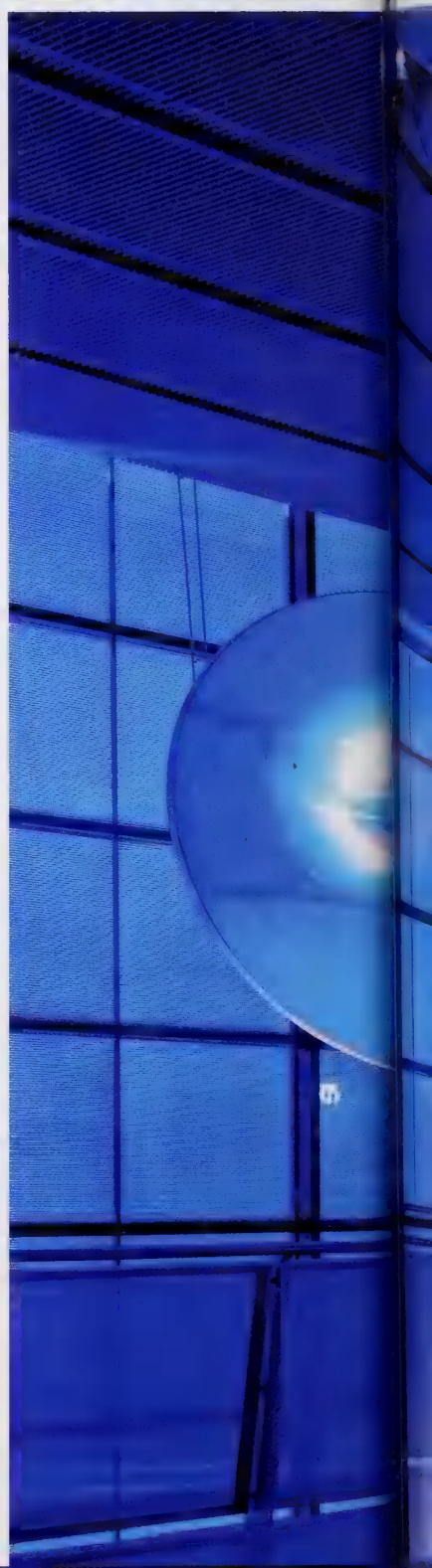
Richard MacCormac faced a daunting program when his London firm, MacCormac Jamieson Prichard (MJP), was awarded a high-profile commission to design the Wellcome Wing, a 118,400-square-foot addition to London's Science Museum, the most visited museum in Great Britain. The trustees wanted the new home for contemporary science and technology exhibitions to be flexible, practical, and efficient, while being theatrical and iconic at the same time.

MacCormac's first sketch was a single volume with floors floating in a field of deep blue. To him, blue is the color of technology, emanating from the ubiquitous monitors that are integral to the Information Age. It's also the color of humankind's first primitive perceptions of water and sky. Furthermore, the architect had been enamored of the deep blues in the light installations of conceptual artist James Turrell. By placing the blue light at the periphery, he could free the interiors for displays. At this point, he turned to the ambiguous interiors of his muse, John Soane, the 18th-century British architect who, MacCormac says, "took the energy out of the center of the space and moved it to the periphery by using light."



To create powerful optical illusions and avoid a kitschy atmosphere, MacCormac needed a true collaborator rather than a consultant. In Dutch lighting designer Rogier van der Heide, he found a scientist with an artist's insight. By manipulating the physical properties of light and color, the Dutch designer found the right formula, which would allow the architect to achieve his dramatic theater. Rogier van der Heide, principal of Hollands Licht, a lighting design company in Amsterdam, discovered a notice

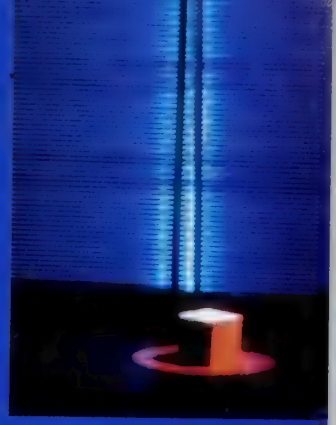




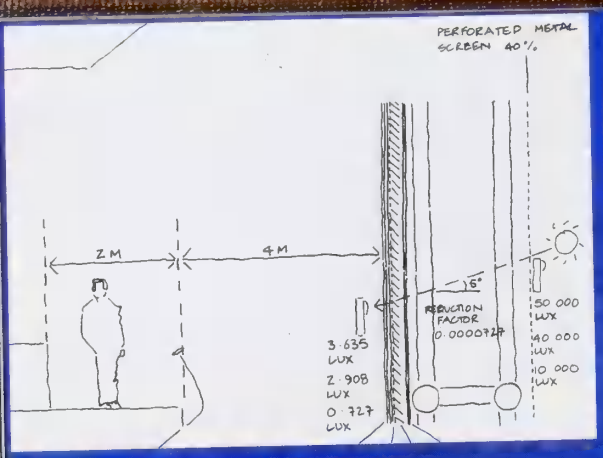
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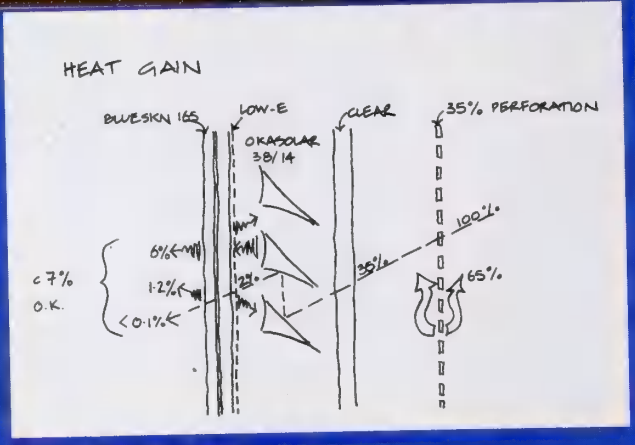






Visitors enter through a tunnel of brilliant orange lightboxes (above, left). "Orange is the opposite of blue," van der Heide says. "The eye's receptors adjust for orange first, so it takes longer for them to adjust to the blue, making the initial experience more dramatic." Van der Heide and MacCormac ensured that the exhibition lighting would not be overwhelmed by blue light flooding in from the windows along the exterior walls (above).

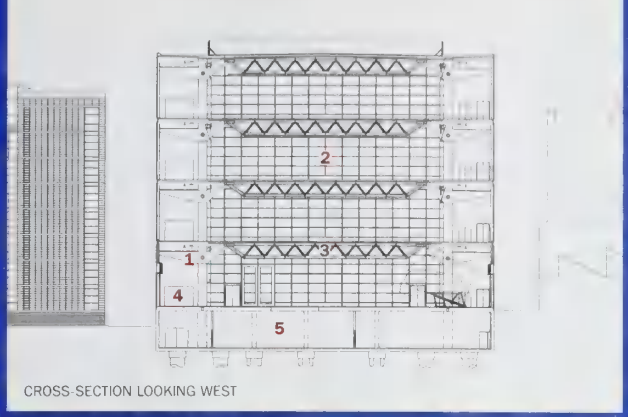

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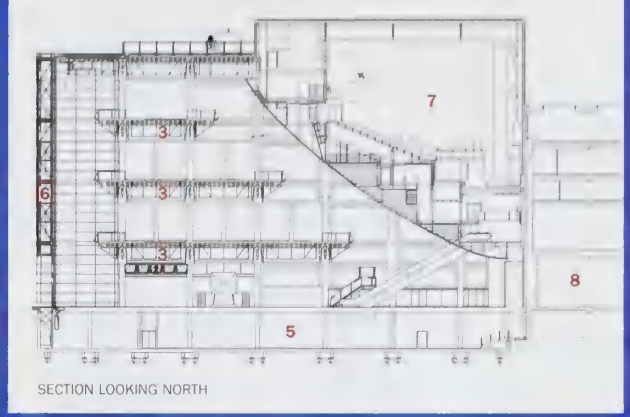



Who am I?
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digitopolis
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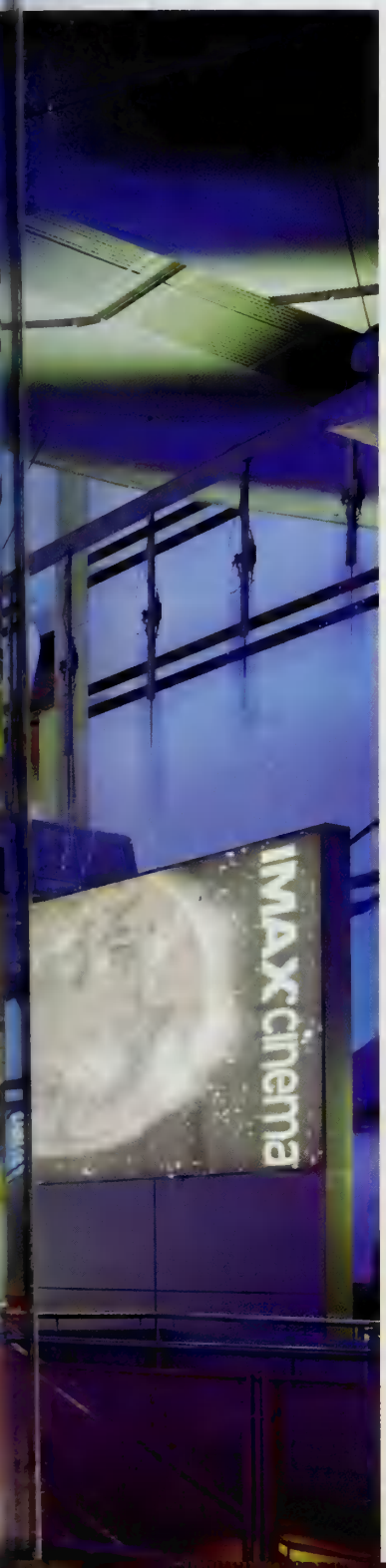
1. "Gerberette" supporting exhibit "trays" (typical)
2. "Blue" wall beyond
3. Exhibition tray (typical)
4. Stairwell
5. Basement
6. "Blue" wall structure
7. Imax theater
8. Existing museum



CROSS-SECTION LOOKING WEST



SECTION LOOKING NORTH



PHOTOGRAPHY: © ROOS ALDERSHOFF

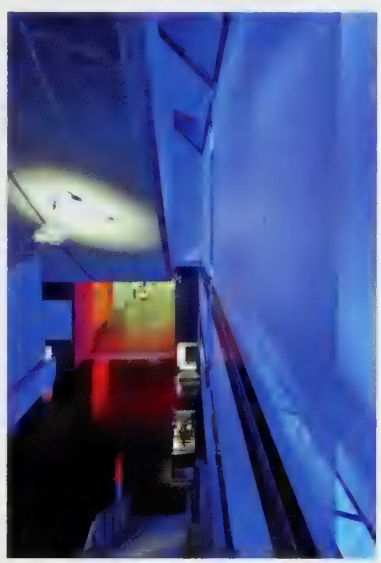
about the new wing and its architect on the museum's Web site. Intrigued by MacCormac's themes of transparency and illusion, van der Heide called him. "We talked about the use of light in his concept for a museum as theater. The next day I was on a plane to London," recalls van der Heide. In MJP's office, they bonded over the idea of creating a glowing blue space and spent the next two years experimenting with materials and methods to create a theatrical experience congruous with a new generation of museum content.

The approach to the Wellcome Wing takes visitors through "The Making of the Modern World," a chronology of innovations and inventions from the past 200 years—trains, planes, and automobiles, among early X-ray devices and the first computers. It also represents the first generation exhibition design—weighty, stationary objects frozen in a spotlight. MacCormac's vision was an inversion of this traditional practice, since this journey through the past would arrive at the threshold of the future. In contrast to the existing displays, the artifacts in this new arena would be smaller, interactive, and animated, emanating light as often as receiving it.

Some of MacCormac and van der Heide's conceptual sketches detail their ideas about the functioning of the blue wall and the interior lighting (opposite left). Trusses form accessible catwalks under each floor deck for maintaining the mechanical and electrical equipment and reconfiguring the exhibition lighting onto the floor below (opposite).

MACCORMAC TOOK THE ENERGY OUT OF THE CENTER OF THE SPACE AND MOVED IT TO THE PERIPHERY, USING LIGHT.

MacCormac began the building the space by spanning the exhibition floors between large pivoted steel cantilevers, called gerberettes. The gerberettes, in turn, are supported on massive concrete columns at the north and south walls. This accomplished two design goals. It reduced the depth of the floor trusses by reducing the amount of steel needed for the span. By tapering the edges of the floors as they come to rest on the gerberettes, they become lightweight trays, creating the illusion that they are suspended in air.

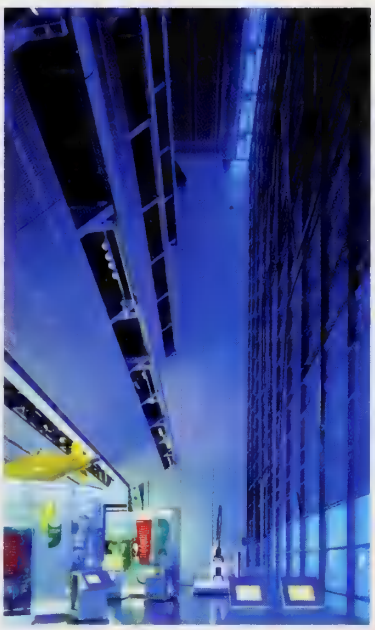


The effect is further magnified by the materials. The deck is a mere six inches of concrete resting on a series of deep trusses that form an accessible catwalk under the deck for maintaining the mechanical and electrical equipment and reconfiguring the exhibition lighting onto the floor below. The bottoms of the trays are clad with industrial steel grillework, which can appear opaque or translucent, depending on the viewer's angle.

MacCormac kept the wing's massive volume open by suspending the IMAX theater from the east end over the entrance. The grille-clad underbelly of the theater slopes







Much of what is ingenious about the collaboration of architect MacCormac and lighting designer van der Heide is the sophistication with which the structural system of the floors, catwalks, and walls have been integrated into blue wall. While the depth of the wall hides massive concrete columns, its luminosity disguises the fact that tremendous loads are being carried within.

upward, dramatizing the height of the space. MacCormac dissolved the concrete north and south walls by hanging fiberglass mesh scrims in front of them. Van der Heide then washed the painted concrete surfaces behind the scrims with a custom luminaire he designed to give an even flood from a short distance.

The 100-by-100-foot wall is constructed of three components, each one essential to the overall performance. The internal component is made of blue glass, a layer of polished aluminum louvers, and an outer layer of clear glass. The exterior component of perforated aluminum panels reduces heat gain. The tremendous weight of these components is supported by a structural system five feet deep located between the two. Primary trusses are made of hollow circular steel sections with pairs of bow trusses within the primary ones to resist wind loads. The whole complex wall system is held up by three pairs of V-shaped, high tensile steel bracing rods. Acting in tension, they direct the loads diagonally to two pairs of support points at the top of each end of the curtain wall. The wall hangs like a bridge from the supports, which are connected to brackets cast into concrete shafts at each end.

PHYSICAL MODELING IS STILL THE STATE OF THE ART FOR LIGHTING DESIGN, NOT COMPUTER CALCULATIONS.

Although the curtain wall may appear to be over-engineered, its performance as a theatrical device is more critical than its function as part of the building envelope. Blue has a narrow bandwidth, making it difficult for the human eye to recognize contrasts. "I selected a very narrow bandwidth of deep blue, which makes it difficult for the eye to judge depth of and focus on the blue plane," explains van der Heide.

In an era where engineering is heavily dependent on computer simulation to provide structural, mechanical, and lighting solutions, architect and lighting designer took a more empirical approach using scale models. "Software doesn't understand materials," says van der Heide. "Physical modeling is still state of the art for lighting design, not computer calculations." When potential solutions were narrowed to a manageable set, the design team returned to Hollands Licht scale studio in Amsterdam. There, van der Heide's model makers created large-scale facsimiles of a section of the curtain wall. Using a sulfur fusion lamp, which can simulate the strength of actual sunlight, accurate measurements are taken. "It's inspiring to present to a client a physical model that is so close to the final product," says van der Heide, implying that computer renderings too often present an idealized version.

The collaboration between MacCormac and van der Heide continues. Together they designed the *Ruskin, Turner, and the Pre-Raphaelites* exhibition at the Tate last spring and turned conventional curatorial practice on its head by saturating the walls with intense colors and bold lighting effects. Art and science are fermenting in the studio at this minute. ■



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CIRCLE 66 ON INQUIRY CARD

Soaring canopies on the south side of the building draw visitors from the side streets to an entry plaza between the museum and the Royal Exhibition Building (left in photo, opposite). Parking is below the plaza.





Denton Corker Marshall's design for the new **MELBOURNE MUSEUM** balances the grand gesture with the spontaneous moment, offering a dynamic counterpart to its Victorian neighbor



y Annemarie Kiely

The traditional museum with its often grueling tour of hermetically sealed galleries is becoming a thing of the past. It's not that we've lost our capacity for curiosity—just the willingness o suffer the discomforts of old, overscaled buildings to udy collections that, courtesy of the Internet, can now e viewed without leaving home. So museums have had o change to survive, becoming social places where the rowds and the buildings themselves are as important as e objects and artwork displayed inside.

The new Melbourne Museum, which opened te last year and was designed by Denton Corker Marshall (DCM), points to the future by pushing the uilding type beyond its traditional form and function. his is an institution which acknowledges that as cycles of hange get shorter so does our attention span, and that as e become better traveled, we don't need the museum to xplain as much as we need it to display and present. It also recognizes at the crowd-pulling power of the curated object is now contingent on e drawing power of the structure that houses it.

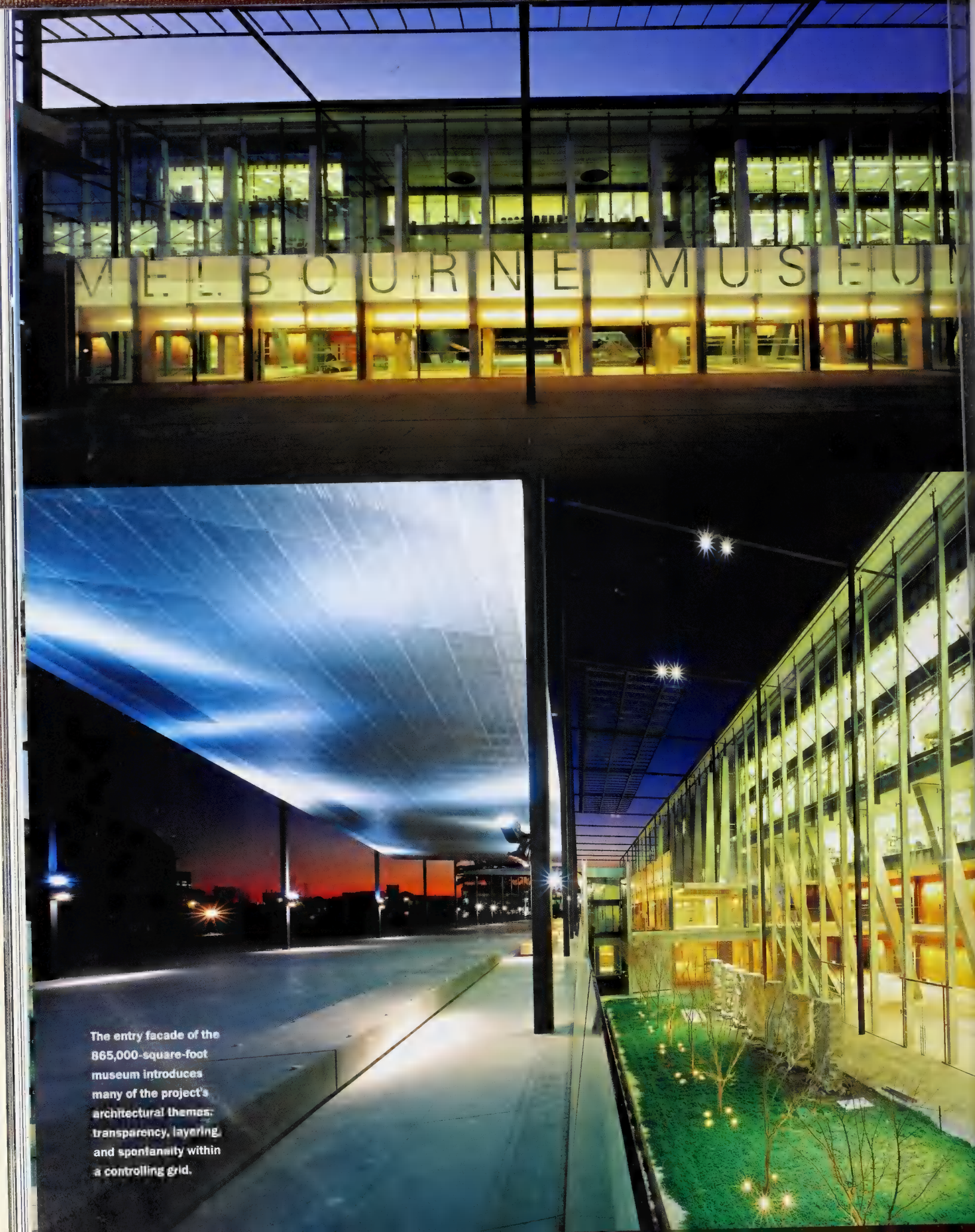
Buried in DCM's bold blending of steel blade and glass is the dical notion that museums must be more than just reflective of their lture; they need to be congruent to it. Nowhere is this more profoundly nd poetically expressed than in the building's unusual siting. Rather than suming a prominent street-facing position on the edge of the Beaux-rts-inspired Carlton Gardens, it turns to the center of its site, resenting its best face to a landmark structure built over 100 years ear-er. The museum's plan echoes the cruciform footprint of its neoclassical eighbor, the Royal Exhibition Building, and also mimics its massing of olids. But DCM's contextual response is one of counterpoint rather than mpliance. A sparingly detailed glazed entry wall expresses a refined odernity, while cleverly reflecting its old neighbor in its surface. This is n upfront, legible declaration of past reflections and parallel cultures ithin a new symmetry. It is the built embodiment of modern thinking.

"In today's city, the museum plays a role analogous to that of the cathedral of yesterday—a place we require in order to challenge the hopes and contradictions of our times," as the Swiss architect Mario Botta said in reference to his San Francisco Museum of Modern Art. It's an analogy that DCM principal John Denton embraces. "There are few buildings today that create the drama of great space, where people are uplifted. In Gothic times, the bigger the church the more successful the city was deemed to be. It's happening again, only this time it's museums putting cities on the map."

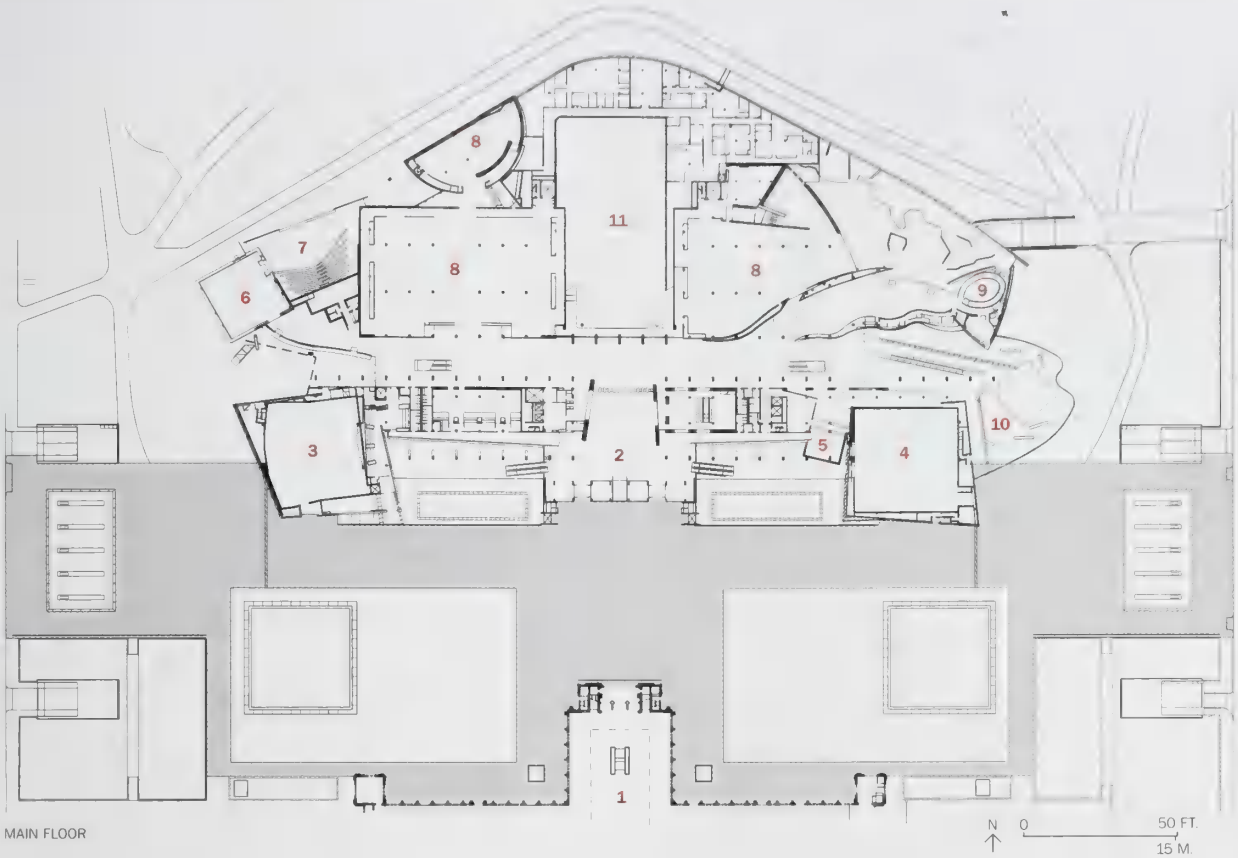
Such was the thinking of Jeff Kennett, the premier of Victoria in the early 1990s and the politician most responsible for the museum that got built. Assuming leadership of the state government in 1992, Kennett scrapped his predecessor's plans to build a new Melbourne

nemarie Kiely is a journalist in Melbourne, Australia, who writes about architecture d design and is a contributing editor of Belle *magazine. She wrote about her own fam-'s house, designed by her husband, architect Sean Godsell, in* RECORD*'s October issue.*

Project: *Melbourne Museum, Melbourne, Victoria, Australia*
Owner: *Museum Victoria*
Architect: *Denton Corker Marshall Pty Ltd.—John Denton, Bill Corker, Barrie Marshall, principals*
Engineers: *Ove Arup & Partners (structural and civil); Lincolne Scott Australia Pty Ltd. (services)*
Consultants: *Visions Lighting Pty Ltd. (lighting); Watson Moss Growcott Pty Ltd. (acoustical); Emery Vincent Design (signage/graphics)*
Steel contractor: *Alfasi Constructions Pty Ltd.*
General contractor: *Baulderstone Hornibrook Pty Ltd.*



The entry facade of the 865,000-square-foot museum introduces many of the project's architectural themes: transparency, layering, and spontaneity within a controlling grid.



1. *Royal Exhibition Hall*
2. *Main foyer*
3. *IMAX theater*
4. *Touring exhibitions*
5. *Food concessions*
6. *Children's museum*
7. *Amphitheater*
8. *Gallery*
9. *Aboriginal center*
10. *Playground*
11. *Gallery of Life*

nuseum, even though construction had already begun on the project on he south bank of the Yarra River. Kennett tossed out the old design and nitiated an international competition for the design of a new museum n a different site closer to some of the city's institutions of higher learn- ng. (The Yarra River site opposite the city's new casino eventually ecame home to a new convention center, which was designed by DCM, oo.) The competition, which was held in 1994, drew 109 entries and led o a second round with five finalists—all Australian and mostly Melbourne-based. The museum's former director, Graham Morris, ecalls the premier's reaction to the finalists. "I think Kennett summed it p when he entered the judging room and marched straight over to Denton Corker Marshall's model and said, 'Christ, this is brilliant,' then valked out."

Over the last 25 years, DCM—which has offices in Melbourne, ydney, Hong Kong, Singapore, Jakarta, Ho Chi Minh City, London, and Varsaw—has earned a reputation as one of Australia's top architecture rms. Projects such as the Melbourne Gateway [MAY 2000, page 83], the delphi Hotel in Melbourne, the Museum of Sydney, and Governor hillip Tower in Sydney are significant presences in their cityscapes. The rm also has designed Australian embassies in Tokyo and Beijing, and still oes innovative private houses.

In developing its scheme for the Melbourne Museum, DCM dentified a major problem with many traditional museums: confusing lans that don't give visitors a clear idea of where they are relative to the xhibition spaces and the point of entry. So the architects took their cues om Frankfurt's River Main precinct where a series of boutique muse- ms occupies a row of historic houses. Visitors can sample as many of he dedicated spaces as they want, though most take in only one or two nd return at a later date to visit others. Such an arrangement gives the recinct a life beyond the single visit. DCM thought this notion of "sampling" would be useful for the Melbourne Museum, especially in attracting young people with notoriously short attention spans. So the firm conceived of facilities with separate and distinguishable characters and functions, linked in orthogonal plan by parallel "boulevards" of glass.

To control all the different pieces in this giant architectural puzzle, the architects enveloped the entire museum in a steel framework that echoes the layout of the city of Melbourne as planned by Surveyor General Robert Hoddle in the 1830s. The rigor of this external grid allows some of the pieces to break free of it; for example, the IMAX cinema and the touring exhibition hall are dynamic, metal-clad boxes that seem to tumble beyond the building's perimeter. Equally eccentric are the children's museum—a multicolored cube that seems to be toppling over—and the Bunjilaka Aboriginal Centre, whose angled panels of rusted steel simulate a bark lean-to.

DCM SAW THE PROJECT AS A SERIES OF BOUTIQUE MUSEUMS, EACH WITH ITS OWN IDENTITY. AS A RESULT, VISITORS CAN SAMPLE A FEW PIECES AT A TIME.

Also helping to anchor the disparate components of the building's north side is an angled 265-foot-long cantilevered roof that soars above the museum's Gallery of Life, a giant screened-in space that recreates a piece of rain forest with live trees and birds. This impressive blade roof, which was built in sections like a bridge before being suspended from circular steel poles, establishes a parity of height and grandiosity with the neighboring Royal Exhibition Building's neoclassical dome.

For the south side, where visitors enter the museum, DCM designed two sloping canopies with 70-foot-long cantilevers that project

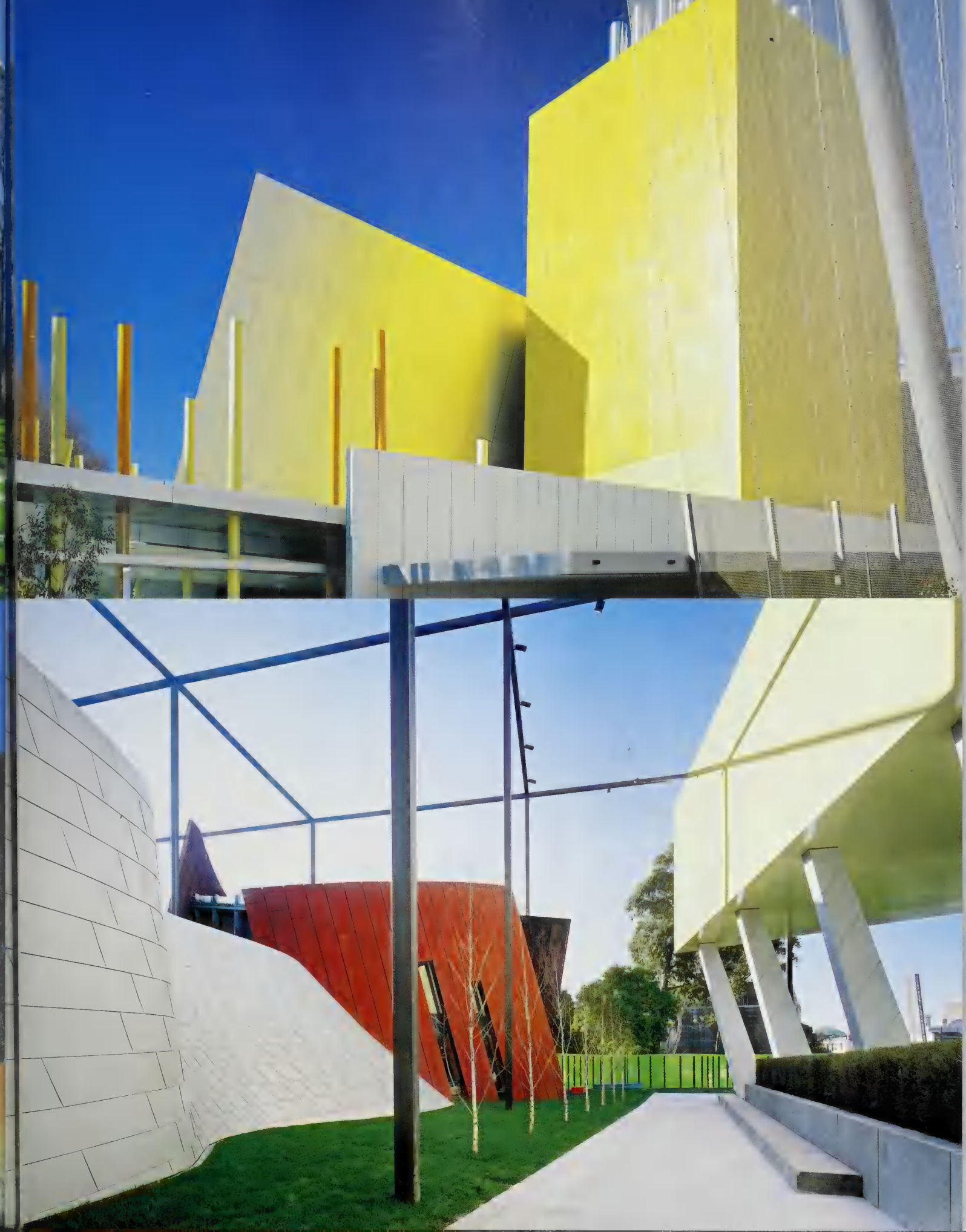




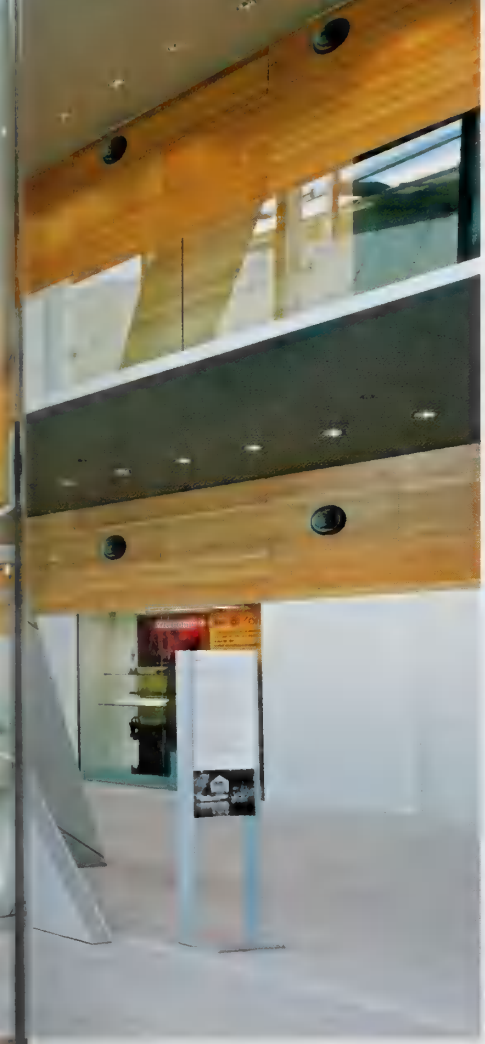
While the museum's entry facade (previous pages) emphasizes the unity of the institution, the other three elevations highlight the individual identities of its various components. At the eastern end of the complex, the Bunjilaka Aboriginal Centre breaks free of the structure's steel exoskeleton with a riot of dynamic forms, striking colors, and industrial materials.



(Clockwise from top left): the 265-foot-long roof of the Gallery of Life; gallery cubes; the snaking forms of the Bunjilaka Aboriginal Centre; and the colorful checkerboard cube of the children's museum.



PATSY







The museum incorporates a range of very different collections, from natural history to native arts to modern painting. Access to individual galleries (above right and below opposite) is from glazed "boulevards," such as the main axis (right) and one of the front foyers (left).

optimistic futurism. The canopies beckon visitors from the streets east d west of the museum and direct them along a new 100-foot-wide aza (the same width Hoddle designated for the main streets of elbourne) running between the museum and the Royal Exhibition ilding. The museum's glazed entry facade offers views into and from fices for administrative and curatorial staff, initiating a theme of transrency and accessibility that runs throughout the structure.

The same quest for transparency drove DCM to design the

HE NEW MUSEUM ATTRACTED A RECORD 5,000 PEOPLE IN ITS FIRST DAY AND HALF OF OPERATION.

useum's two main circulation spines as glazed boulevards running east west. The first of these internal streets moves through unticketed zones the front of the museum, while the second spine stretches out on the rth side and provides access to a range of exhibition spaces on two lev-. Visitors can walk down the light-filled hallway to sample a particular hibition space, then return to the cafe-lined thoroughfare to regroup, nergize, and reorient. They can walk from the darkly lit science-and- gallery, where they might explore biodiversity and digital chnologies, and then go to the Bunjilaka Aboriginal Centre, with its dulating 165-foot-long wall of zinc panels etched with Koori imagery. the upper level they can investigate the Australia Gallery with its hidn histories of Melbourne, then enter the white-washed, sculptural space the Te Pasifika Gallery. Here visitors can descend a curving ramp—down and around suspended examples of the crab-claw sails used by the Pacific's sea-faring cultures—back to ground level. The contrasting experiences of the galleries and the strong orientation of the glazed circulation spines help combat the usual problem of museum fatigue.

After six years of design and construction, the Melbourne Museum opened on October 21, 2000. Union labor problems delayed the project by several months, while soil contamination and a change in the scope of work pushed its cost up to $177 million, $15 million over budget. But it's been a big hit with the public, attracting 65,000 visitors in its first day and a half of operation. Explaining why the museum has been such a crowd pleaser, Director George MacDonald says the architects "made the institution visible and accessible. Eighty percent of the public don't visit museums. But look around and you see every age, every demographic here." As if on cue, an excited child runs through the foyer and exclaims to his mother, "This is so much better than a museum." ■

Sources

CAD software: *Bentley (Microstation)*
Metal roofing: *BHP*
Glazing: *DMS/JML*
Acoustical ceilings: *Armstrong*
Cabinets and custom woodwork: *International Cortaulds*
Plastic laminate: *CSR Formica*
Aluminum cladding: *Expoconti*
Exhibition space showcases: *Classic Resources*
Interior ambient lighting: *Sunlighting Australasia, Thorn Lighting, Pier Lite*
Exhibition lighting: *Ramco, Kupo*

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The 56,000-square-foot complex includes a renovated neo-Palladian villa and a new 37,000-square-foot building tucked underground and focused around a large central courtyard. Into one part of the villa Ando inserted a curving concrete auditorium as well as a glass-fronted connector.



Tadao **Ando** sculpts the Italian landscape and engages in a dialogue with history at the new **FABRICA COMPLEX** in Treviso



By Clifford A. Pearson

From his earliest houses with their tight outdoor spaces set within spare concrete walls, Tadao Ando has been obsessed with the relationship between building and nature. Whether surrounded by urban clutter or climbing the side of a mountain, Ando's buildings draw much of their power from inspired contrasts and poignant connections between the natural and the artificial. Visions of a lotus pond floating above a concrete temple or a perfectly framed view of a single tree come to mind at the mention of his work. In a 1989 article in *Space Design*, he explained, "My goal has not been to commune with nature as it is, but rather to try to change the meaning of nature through architecture. The process has been one of rendering nature abstract through architecture."

Ando's creative engagement with nature continues at the Fabrica Research Center in Treviso, Italy, with the extra twist of history entering the conversation. In Japan, Ando's buildings are mostly timeless sentinels amid urban sprawl or rural isolation. The Fabrica project, on the other hand, began with a 17th-century Palladian-style villa and a landscape 20 miles north of Venice that has provided the backdrop for hundreds of years of remarkable gardens, courtyards, and piazzas. For the first time in his career, Ando was asked to renovate a historic structure and then add onto it. And for the first time, he was working in Italy.



Fabrica is the communications arm of the clothing and sportsgear company Benetton and encompasses the publishing operations of the magazine *Colors*, as well as cultural activities such as producing films, music, and Web sites. It also includes a fellowship program for 30 young artists who come from around the world to work on projects for Benetton or nonprofit organizations. The name Fabrica comes from the Latin word for workshop and reflects the parent company's vision as a place where people roll up their sleeves and create.

The project began in 1992 when Luciano Benetton, founder of the Benetton Group, asked Ando to visit Treviso, where the company had

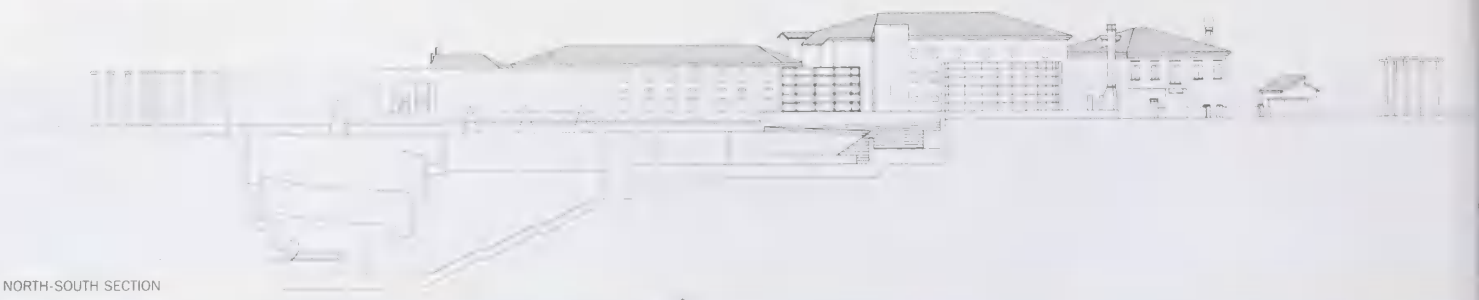
Project: *Fabrica/Benetton Communications Research Center Treviso, Italy*
Owner: *Fabrica SpA (Benetton Group)*
Architect: *Tadao Ando Architect & Associates—Tadao Ando, principal; Masataka Yano, project architect*
Project manager: *Eugenio Tranquilli (Benetton Group SpA)*
Engineers: *Tecnobrevetti SrL—Giandomenico Cocco, Luigi Cocco (structural); Adriano Lagrecacolonna (mechanical)*
General contractors: *CEV SpA—Valerio Vendramin, Antonello Vendramin (new building); Ivone Garbuio & CRSL (renovation phase)*



PHOTOGRAPHY: © JAPAN ARCHITECT CO. LTD, EXCEPT AS NOTED



"To make architecture means to 'create a place,' to demarcate a 'place out from nature,'" says Ando. At Fabrica, he literally cut the building into, and set it in contrast with, nature. A central elliptical court brings daylight into the studios and gallery spaces around it, while a flat lawn covers the roof and extends beyond (below and opposite).



NORTH-SOUTH SECTION



converted a number of old villas into offices and commissioned Tobia and Afra Scarpa (the son and daughter-in-law of Carlo Scarpa) to design an impressive collection of manufacturing and distribution facilities during the past three decades. Although he says he had some hesitation about the distance separating Italy from Japan, Ando was impressed by Benetton's record of sensitive modern architecture and the program's rich possibilities. He also was inspired by the Palladian architecture of Treviso, with its "aesthetics of absolute symmetry" and its "sense of volumetric space." Ando adds, "I was intrigued by these qualities rarely found in Japanese architecture."

Preserving the past and looking forward

The first phase of the project—which was completed in 1995—involved the renovation of the existing villa and some of its outbuildings, the insertion of a curving concrete auditorium within the old house, and the construction of a new reflecting pool and garden terrace. Then, after several years of getting approvals from the notoriously difficult Italian bureaucracy, construction began on a new 37,000-square-foot studio-and-gallery building attached to the villa. The entire 56,000-square-foot complex opened in September 2000.

"We want Fabrica to be a laboratory for ideas and a research center for communications in the 21st century," states Benetton. "We want it to be an architectural symbol of preserving the past and moving into the future."

From the beginning, Ando envisioned the new building as a concrete structure burrowing into the land and topped with an artificial landscape. Along with the pool terrace behind the old villa, the new facility would provide a series of opportunities to create lawns, gardens, and courtyards. The picturesque gardens of 19th-century England, whic blurred the distinctions between the natural and man-made, would hav no place here. Instead, Ando would "create a relationship, a dialogue between nature and architecture (which he defines as "a place out fro nature" and "standing in opposition to nature"). By "making explicit th uniqueness [of architecture] within nature," Ando planned to "bring ou the intrinsic power of the place."

The architect took a similar approach to connecting old an new, contrasting the contemporary with the historic while initiating dialogue to "stimulate energy" between the two. A 23-foot-wide walkwa lined on one side with an imposing parade of freestanding columns serve as the key link between the renovated villa and the new building. Th walkway begins outdoors, cuts across the reflecting pool, turns into a

THE ARCHITECTURE OF THE PAST AND PRESENT PUT THEIR TRUST IN AND DRAW INSPIRATION FROM EACH OTHER.

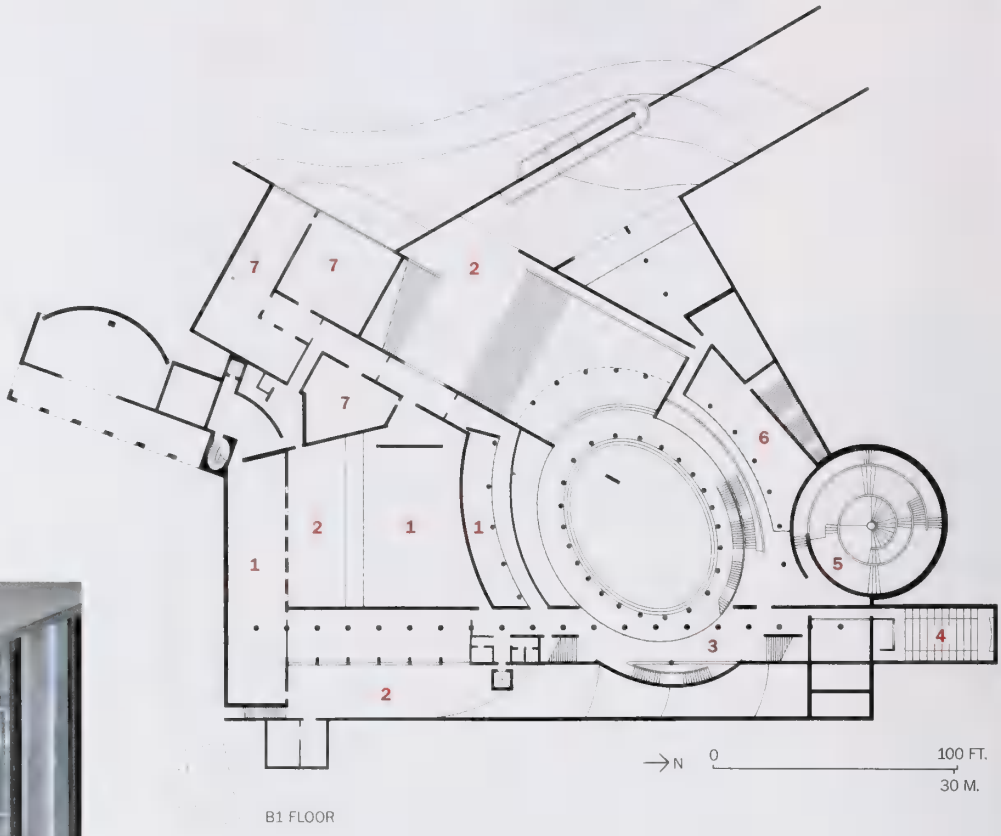
interior gallery in the new building, then emerges outdoors once again as a stepped terrace on the north side of the property. On its own, the walkway in all its permutations is a powerful axis that holds Ando's spiraling plan together and serves as an unmistakable spine for the entire complex. But coupled with its neoclassical colonnade, it becomes a mannerist device for linking old with new. Yes, the columns help visitors orient themselves and show how to get from one side of the complex to another; but they're a heavy-handed device for connecting with Italy's Palladian architectural heritage.

The heart of the new building is an elliptical courtyard, which



column-lined walk-
ay runs through the
te, cutting across a
flecting pool behind
e 17th-century villa
pposite), then it
shes through the old
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of terrace overlook-
g the new courtyard
ght). The walkway
d the interior corri-
r directly below
rve as the project's
ain spine.

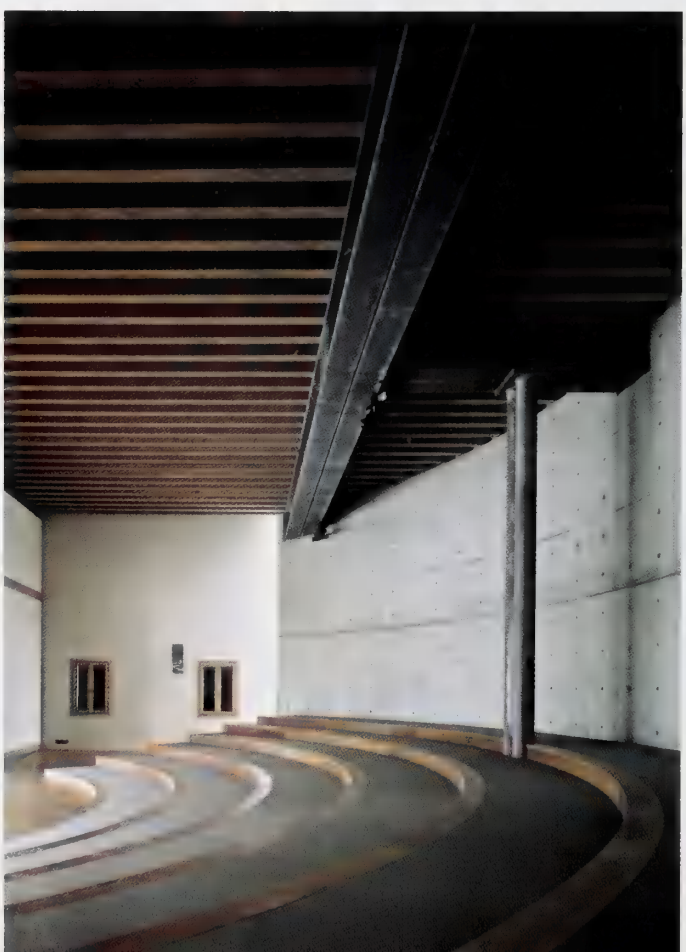
1. *Studio*
2. *Court*
3. *Lobby*
4. *Theater*
5. *Archive*
6. *Library*
7. *Mechanical*



B1 FLOOR



Although mostly underground, the interiors of the new building (above) receive daylight from the courtyard and from skylights running above circulation areas. In one of the old buildings on the property, Ando created a bulging concrete auditorium (right) that faces a new reflecting pool and terrace (opposite). A new stair (far right) in the villa recalls the rich colors of Treviso's architectural past.







brings daylight into the design studios and gallery spaces arrayed around it. Like all good piazzas, this court acts as a public stage for planned and impromptu events, as well as a casual place for socializing.

Making a grand entrance

Working with the courtyard, other outdoor spaces and terraces fit between and alongside the buildings, so that the underground structure is activated by the movement of daylight throughout its interiors. The most spectacular of these outdoor elements, the grand stair, cuts through Fabrica's front lawn and down to the elliptical court. As he has done in so many other projects, Ando turns the simple act of entering a building into an architectural pilgrimage—stretching it out so visitors can savor the experience. And by positioning the stair at an angle to the elliptical court, he offers visitors oblique and partial views of the sunken space, which reveals itself only slowly.

The main work areas inside the building are tall loftlike spaces that can be easily partitioned or opened up, depending on Fabrica's staffing. Floors in work areas are linoleum tile, while those in common areas and walkways are poured concrete. A light-filled library and an inward-looking archive with a tight stair spiraling between thick walls anchor the north side of the complex, while studios and open galleries occupy the south side of the building. In addition to the auditorium inserted into the old villa, a small movie theater sits at the end of the long colonnaded axis with a lounge and terrace above it.

"To allow the scenery and the memory of the environment to continue to flourish," the new building submerges itself in the ground, says Ando. But this is anything but a retiring work of architecture. With its angled concrete walls slashing through the earth and contrasting with the lush green lawns around and above it, the building asserts a bold vision of structure and landscape, glass and grass running together. Ando speaks of "a reciprocal, cathartic relationship between old and new . . . transcending the limits of a specific period." He says that "the architecture of the past and the present here put their trust in and draw inspiration from each other." The same is true of nature and building at Fabrica—two forces that confront and support each other, neither able to overpower the other, each respecting its counterpart. ■

Sources

Curtain wall: *Gino Ceolin & Figli SnC*
Concrete (new building: *CEV SpA*
Paints and stains: *Dottor srl*
Elastomeric roofing for hanging garden: *CEV SpA*
Wood windows on renovated building: *Tonini*
Wood doors on new building: *Quaggiotto Sante*
Office tables and cabinets: *Herman Miller*
Plywood chairs: *Vitra (Jasper Morison)*
Linoleum tile floors: *Linoleum Moquette Torpetti srl*
Interior ambient lights: *Guzzini General Electric*
Exterior lights: *Bega; Castaldi*
Grass and trees: *Curtolo srl*

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Booth Hansen employed the language of early-20th-century ornamentation in new wall stencils and laser-cut-steel hanging lights.

Booth Hansen uses computers, lasers, and ingenuity to recapture the Celtic Revival spirit of OLD ST. PATRICK'S CHURCH in Chicago



The exterior of the 1871 landmark church does not hint at the Celtic Revival exuberance of Thomas O'Shaughnessy's interior decorations of 1912 to 1922.

By Blair Kamin

It is Chicago's oldest public building, a survivor of the Great Fire of 1871 and a landmark of the American immigrant experience. Now, after a $6.5 million revamp by Laurence Booth, FAIA, of Booth Hansen Associates, St. Patrick's Roman Catholic Church ("Old St. Pat's," to parishioners) is Chicago's—and perhaps the nation's—most spectacular showcase of Celtic Revival ornament.

Located a few blocks west of Sears Tower, the 145-year-old church conveys a strong sense of permanence, yet it is also deceptively plain. Within its weathered walls of Milwaukee common brick is a color symphony of stained glass and stenciling, first orchestrated in the early years of the 20th century by the artist Thomas O'Shaughnessy, then brought to a crescendo by Booth during a three-phase, eight-year building campaign that ended, appropriately, on Christmas Day, 1999.

Timing, in the end, was everything. If this project had been carried out at the height of the Modern movement, it almost surely would have meant painting the church's walls white in order to achieve an "honest" separation of old and new. Instead, Booth merged past and present in a lyrical whole that is architecturally rigorous even as it enriches human experience. He was aided by new, computer-driven fabrication technologies—laser, water jet, and woodworking tools—that make old-fashioned craftsmanship economically feasible.

The project's significance transcends architecture. Old St. Pat's was a polestar for immigrants to the Midwest. For thousands of Irish who journeyed to Chicago to dig canals and work in the stockyards, it was the first stop after disembarking from the train. There, immigrants would receive food and other forms of sustenance. Those who had been persecuted for their beliefs must have seen in Old St. Pat's an affirmation of their culture that they could not have imagined in their homeland.

Any changes to such a landmark had to be done with exquisite

Blair Kamin is the architecture critic of the Chicago Tribune *and author of* Why Architecture Matters: Lessons from Chicago, *to be published later this year.*

Project: *Old St. Patrick's Church Renovation, Chicago*
Architect: *Booth Hansen Associates—Laurence Booth, FAIA, principal; Gisèle Taxil, George Halik, AIA, John Forehand, AIA, Margaret Ketcham, Chris Guido, project team*
Structural engineers: *Robert Miller; Beer Gorski & Graff*
Consultants: *Schuler & Shook (lighting); Kirkegaard (acoustical)*
General contractor: *Turner S.P.D.*

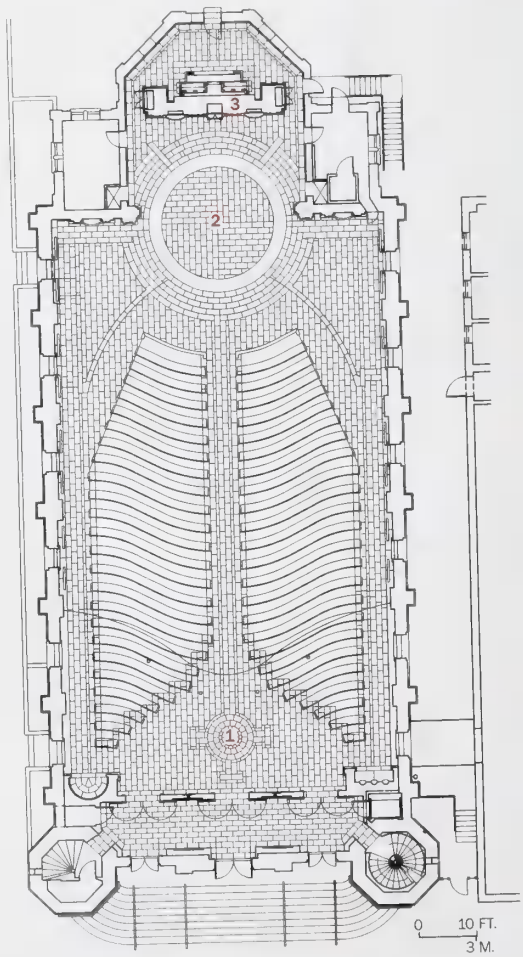
care. Before the project could begin, Booth had to persuade Pastor John Wall that alterations to the sanctuary wouldn't spark a revolt among parishioners, who loved the homey feel of the place. Cleverly, then, Booth and Wall advertised the project as a renovation. Yet, as Booth acknowledges, "We weren't going to renovate it; we were going to complete it." The question was, how?

Booth's guiding principle was to remain faithful to the artistic spirit of O'Shaughnessy, who made his mark on Old St. Pat's between the years of 1912 and 1922, when the church was more than half a century old. Based on the late-eighth-century Book of Kells, an illuminated manuscript of the Gospels drawn by Irish monks, O'Shaughnessy's stained-glass windows celebrated Irish saints, kings, and martyrs in bursts of greens, reds, and golds. Snaking stencil patterns, which recall the naturalistic ornament of Louis Sullivan, continued the ornament of the windows onto the walls around them.

But in the postwar years, when such flourishes went out of fashion, the stenciling was painted over and the church turned dowdy, with pink and blue walls surrounding the stained-glass windows. Ramrod straight pews on the main floor were colored green. Then, just as the renovation began in 1992, O'Shaughnessy's stencils were rediscovered—too damaged by neglect and age to be restored, but intact enough to serve as an artistic guide. There were 56 stencil colors, which made Pastor Wall balk about going ahead. Eventually, though, he took the creative leap, allowing Booth to extend O'Shaughnessy's two-dimensional decoration into three dimensions.

Booth's plan subtly reconfigures the main floor of the 876-seat sanctuary, with a new circular altar at one end of the main east-west axis and a new baptismal font at the other. Between them are new double-curving cherry wood pews that echo those originally found in the balcony. The plan reflects the Second Vatican Council's mandate to

1. *Baptismal font*
2. *Altar*
3. *Altar screen*



MAIN FLOOR

Changes in the sanctuary include curving pews, a circular altar, and a sculpted-plaster altar screen that brings ornamental ideas into three dimensions.



enhance a sense of community, with the new pews allowing parishioners to see one another, rather than stare straight ahead. The arrangement is humanistic in image as well as reality—the circular altar resembles a head, the pews suggest ribs. Curving walls extend out from the altar like arms, symbolically drawing together clergy and congregation.

An underlying order also is present in the relationship of Old St. Pat's stained-glass windows, stencils, and sculpture—a good thing because otherwise the place would seem visually chaotic. Booth arranged new stenciling so it seamlessly extends the decoration of the stained glass into the walls. The walls' sandy brown background color further reins things in. Even the roof trusses play their part in the decorative scheme.

The result is at once joyous and disciplined. While the sanctuary has been compared to the inside of an Easter egg, it is anything but cartoonish. Despite its profusion of decoration, it seems airy and open rather than smothering. It is as if the sun were shining not only through the stained-glass windows but also through the snakelike patterns of Celtic ornament.

Booth's major addition to the sanctuary—a three-arched altar screen that echoes the three doorways of the church—is appropriately respectful, continuing the interlacing ornament of the stencils, but ceding them visual preeminence. Still, the altar screen is a powerful focal point, its sculpted plaster shapes—from earth and water, to plants and fish, animals and angels—symbolizing the Creation story.

At the other end of the main axis is the new baptismal font clad in chiseled Italian marble; its incised, undulating pattern suggests waves and expresses a sense of eternity. Below the surface of its waters, a bronze labyrinth echoes the interweaving Celtic decoration of the sanctuary. Symbolically, Booth says, the fountain is a "primitive Irish well," a place from which today's worshippers can draw strength and spirit, much as their 19th-century predecessors did at Old St. Pat's.

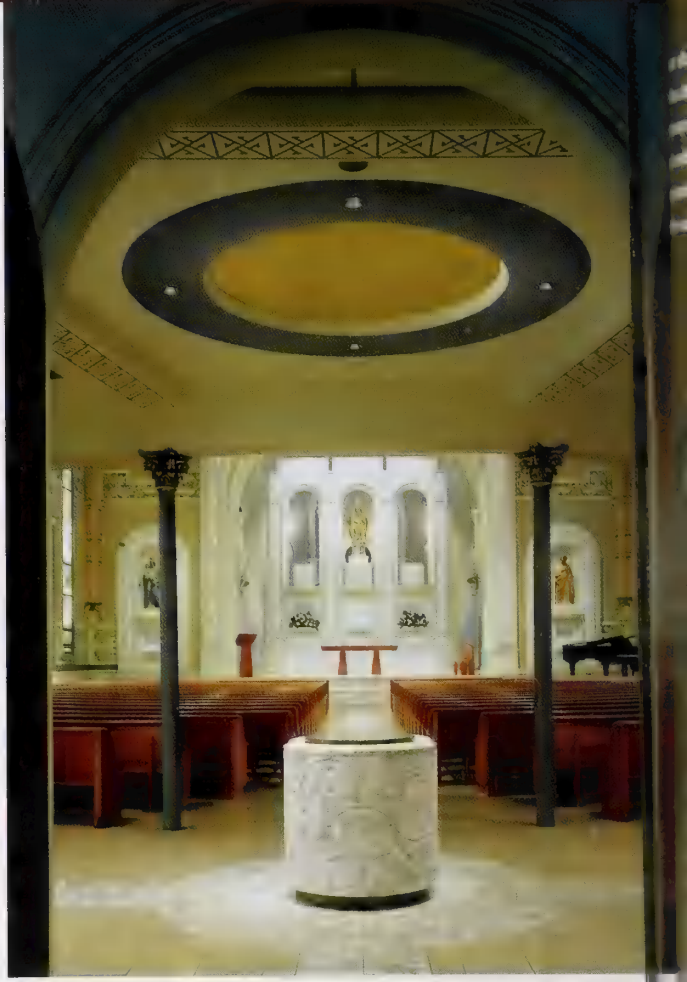
While the church's new stencils were done the old-fashioned way—with paint passed through cutout screens—other new features of the church were made possible by computer-assisted technology. A marble inlay pattern on the altar floor, for example, was cut by a machine that uses high-pressure water jets. New lanterns, with simple geometric forms that suggest the Art Nouveau influence in O'Shaughnessy's windows, have laser-cut steel that is appropriately lacy. CAD also facilitated the design of the double-radius cherry wood pews. These technologies confound the conventional wisdom that traditional ornament no longer is possible—or economical. "The lie," says Booth, "is that all the craftsmen are dead."

But the broader worth of this project extends far beyond technical achievements. It underscores the continuing power of ornament and narrative in architecture, offering an alternative to reductivist Modernism, on the one hand, and rigidly historic preservation standards, on the other. Rooted in the past without lapsing into nostalgia, it suggests that the experience of the worshiper, rather some preconceived ideology, should be preeminent in the design of our worship spaces. And who can argue with the result? In ways that Ludwig Mies van der Rohe never would have imagined, but surely would have appreciated, God truly is in these details. ■

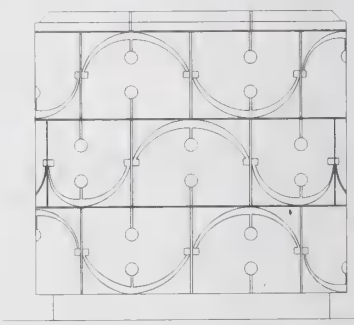
Sources

Wood doors: *Parenti & Rafelli*
Paints and stains: *Glidden, Benjamin Moore*
Plaster surfacing: *Luczak Brothers*
Stonework: *Visone & Calcutta*
Pews: *New Holland*
Lighting: *New Metal Crafts, Visa, Alta, Lighting Surfaces, Edison Price, Lightolier, Metalux, Columbia*
Water-jet stone cutting: *Farrodyne*

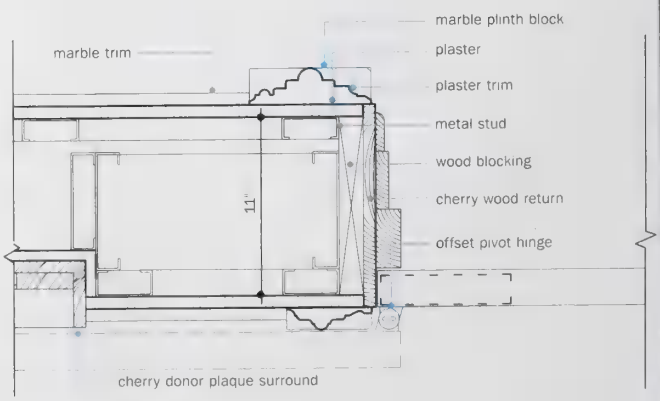
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A new baptismal font (above and drawing right) anchors one end of the main east-west axis, opposite the new altar. Many of the ornamental details were executed using new technologies such as water jets to cut stone.



FONT DETAIL



VESTIBULE DOOR JAMB



A new altar screen echoes the three doorways of the church and continues the interlacing ornament of the wall stencils.



In aerial view (opposite) the building's exuberant forms abstractly resemble a reclining sunbather, though any one-liner readings are obscured at ground level (this page).

Randall **Stout** brings evocative form and energy-channeling innovation to his **STEINHUDE** pavilion for boaters, bathers, and sunworshippers

By David Hay

When you think about it, die-hard sunbathers never really lie on beaches peacefully. They're always shifting to take advantage of the moving sun. Their body positions, though sometimes awkward, inspired Los Angeles architect Randall Stout while designing the Steinhüde Sea Recreation Facility.

Built on a tiny island on Steinhüde Meer, northern Germany's largest fresh-water lake, this bathhouse looks from above like a figure leaning into the sun. But the form is not merely lyrical: The 4,850-square-foot structure relies on photovoltaic panels, built into a glass roof, for its energy needs.

The architect, who rarely designs forms that can be read as one-liners, was careful to camouflage the metaphor. "Only in aerial photographs do you read the full human figure," notes Stout. Indeed, from the ground, this playful wood-and-glass building hardly resembles a sunworshipper caught in the woods. A berm separates it from a nature preserve, and approached from the rear, the building has a low, curving roofline that anchors it visually to the earth. Such rustic materials as stained marine plywood further link the form to its natural setting, and translucent polycarbonate walls, reminiscent of a greenhouse, reinforce a strong connection between indoors and out.

Viewed from the water—a favored vantage point on warm, breezy summer days—the effect is different again. A 270-degree aluminum-and-glass facade wraps the building's towering front, suggesting an inviting combination of rest stop and lighthouse. At night, says Stout, the beacon effect is even more evident. This vertical element, as he proudly explains, "becomes a glowing object on the landscape."

The genesis of this $900,000 project was something of an accident. Stout first worked in Germany in the early 1990s as a project architect for Frank Gehry. Since going out on his own in 1996, the younger architect has received seven German commissions, ranging from the North Minden Power Plant to an aquatic center in Melittabad. Over lunch in Wormsdorf in late 1996, Stout was introduced to the town's mayor. At the time, the region's town leaders were soliciting designs for experimental windmills they hoped to display during Expo 2000 in Hanover, 40 miles away. The mayor suggested to Stout the idea of designing a windmill for an 11.4-acre island, barely a mile from Wormsdorf.

David Hay, based in Los Angeles, frequently writes on architecture and the arts.



On his flight back to Los Angeles, the American architect responded with a two-building program: an exotic stainless-steel windmill, which would house an observation deck, and next to it a recreational facility. Green Party members who sat on Wormdorf's design committee argued that the windmill might entrap birds, and so Stout was asked to incorporate the entire program into one structure. He came up with a model based on the reclining human form, which delighted his clients, representing the town of Wormsdorf.

Stout was assisted in the design process by longtime colleague Hartwig Rüllkotter, an architect based near Hanover. Working in each other's offices and via the Internet, the architects completed a computer-generated model of the scheme. Here, Stout had another lucky break. A German prefabricator, IHV Objektbau, wanted to experiment with new production software that could read Form Z, the very design

Project: *Steinhüde Sea Island Recreation Facility, Badeinsel Steinhüde, Germany*
Client: *City of Steinhüde (City Works—Recreation Department)*
Architects: *Randall Stout Architects—Randall Stout, AIA, design principal; Tim Williams, Friedrich Tuczek, Wes Adachi, Richard Claridge; Archimedes—Hartwig Rüllkotter, project principal; Corinna Hohkamp*
Engineers: *IHV Objektbau (structural)*
Consultants: *UTEG (project management); Jurgen Kotter, Dirk Rabeneck (energy)*
General contractor: *IHV Objektbau*

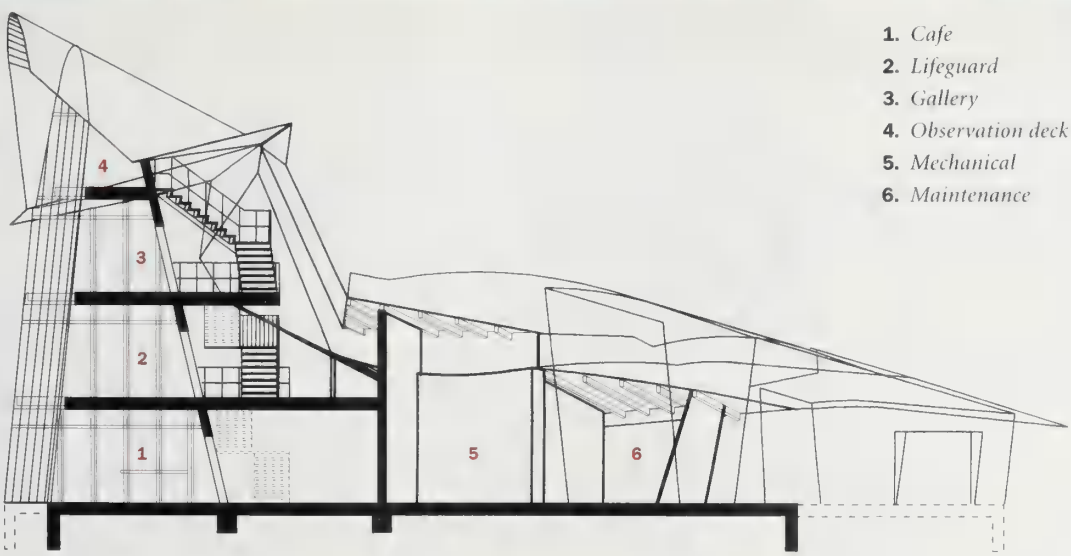






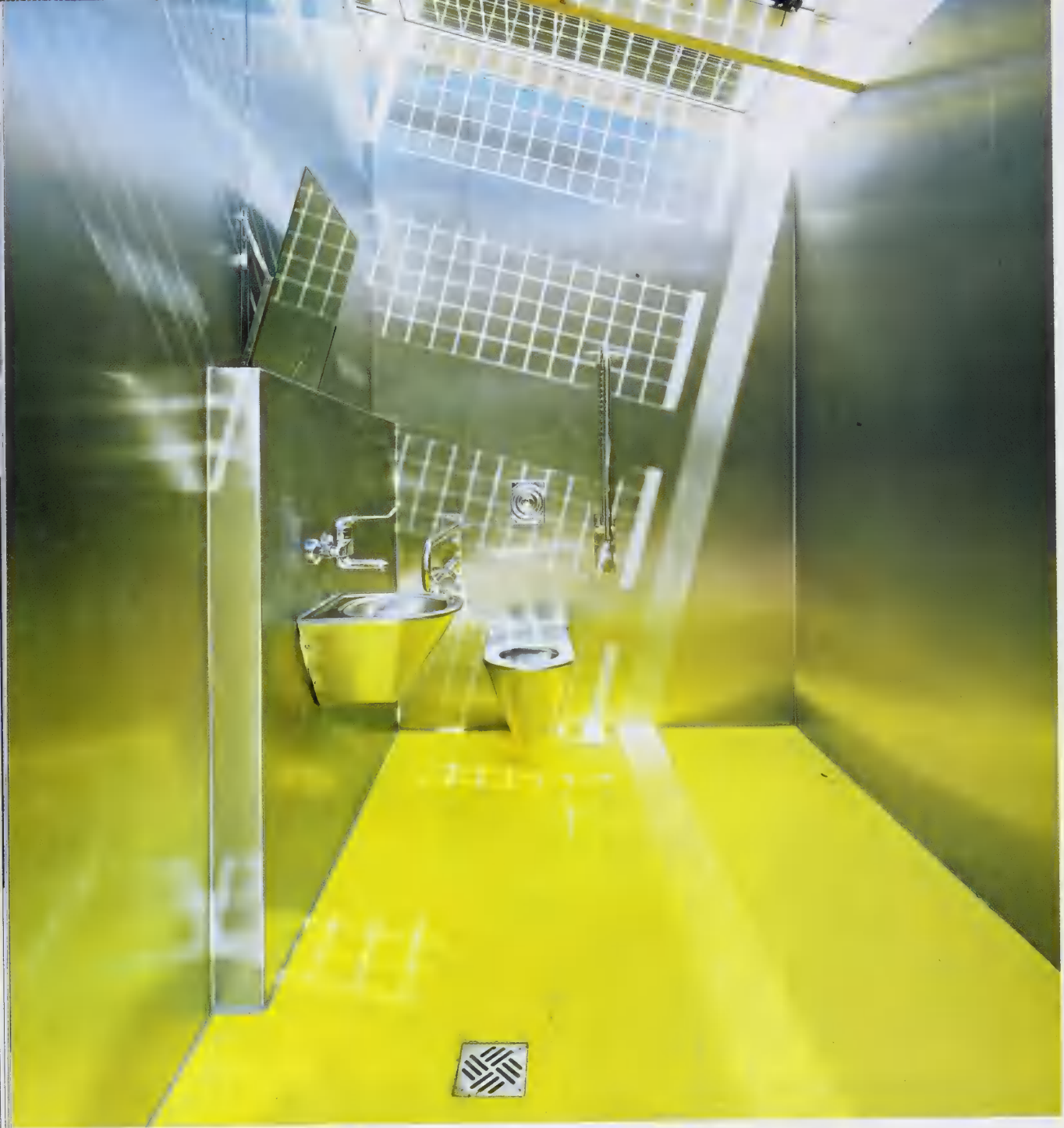
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at night.

The building's complex roof forms (this page and opposite) are angled to catch the sun's rays. The roof glazing is laminated with photovoltaic cells that provide power for the recreational facility, as well as its small fleet of photovoltaic-operated rental boats. The building's towerlike end faces the lake (opposite, below) and glows like a lighthouse at night.



SECTION A-A

1. *Cafe*
2. *Lifeguard*
3. *Gallery*
4. *Observation deck*
5. *Mechanical*
6. *Maintenance*



The glazed and expressively configured roof (opposite) filters light into the interior. Even in a bathroom (this page), the play of light from above becomes compositionally powerful.



GROUND FLOOR



1. *Cafe*
2. *Maintenance*
3. *Mechanical*
4. *Storage*
5. *Sinks*
6. *Shower*
7. *Toilets*
8. *Boats*
9. *Staff*



program Stout had used. "So, we handed them a disk and they produced the shop drawings," says the architect. IHV prefabricated the bathhouse components, an important step since this environmentally delicate island connects to the mainland only by a low-weight-bearing pedestrian bridge. Accordingly, with sensitivity to the existing ecology, the builders carefully hoisted components from a barge with a crane during the three months of construction.

The facility opened on June 1, 2000. Although Stout modestly calls it "just a nice bathhouse for beachgoers," the building provides more than changing rooms and showers. There are storage areas for lifeguards and offices for the staff of the facility's small boat dock. The four-story towerlike section at the front houses a ground-floor cafe, a lifeguard station, and an observation deck.

"KIDS RUN ALL OVER THE BUILDING," SAYS STOUT. "THEY TREAT THE OBSERVATION DECK'S STAIR LIKE A TREE HOUSE."

Showcasing his imaginative energy program, Stout prominently installed a rapeseed-oil generator beside the stairs to the tower, that powers the building during the dark winter months. Visitors are thus boldly introduced to the facility's unusual energy source. In addition, the building's on-site batteries store enough power to recharge smaller batteries onboard 12 photovoltaic-powered rental boats docked at the marina.

Like a devout beachgoer, Stout's building takes full advantage of the summer's sunniest months: Its glazed roof, laminated with photovoltaic cells, brings abundant light and warmth to the interior. Raised five inches above the exterior walls, the roof also releases any excess heat build-up. The comfortable and energy-efficient performance of these details is very satisfying to Stout. But what thrills him most is the reception from real-life sunbathers. "The kids just run all over this building," he says with a smile. "They treat the public stair up to the observation deck like a little tree house. All around, the response from this fairly conservative community has been overwhelming." ■

Sources

Roofs: *Solon AG (glass with integral photovoltaic cells)*
Plastic panels: *Rhom (translucent, exterior)*
Framing: *IHV Objektbau (wood)*
Flooring: *Exposed strand board*
Curtain wall: *Constructed onsite with standard extruded-aluminum profiles*

WWW For more information on the people and products involved in this project, go to Projects at **www.architecturalrecord.com**

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Form and Fashion

EMPHASIZING LUXURIOUS MATERIALS AND CUSTOM DETAILING, ARCHITECTS ARE DESIGNING UPSCALE FASHION BOUTIQUES THAT BLUR THE LINE BETWEEN ART, THEATER, AND COMMERCE.

By William Weathersby, Jr.

On view through January 17 at the Guggenheim Museum in New York City, an exhibition surveying the career of fashion designer Giorgio Armani holds up a mirror to the millennial moment. A fascinating convergence of sociology, commerce, and architecture, the retrospective seeks to elevate the examination of clothing design to the level afforded art and other cultural artifacts. Beyond the more than 400 garments on display, it is the design of the exhibition installation that astounds. Theater director and designer Robert Wilson has created a dramatic dialogue between the displays and Frank Lloyd Wright's spiraling volume. Combining floating mannequins, translucent scrims, mudlike floorcovering, and dramatic lighting, the exhibition is a kinetic tour de force that unfolds with each change of scene along the famed ascending ramp.

While such costume shows have become museum blockbusters, the flip side may be found in high-end retail stores worldwide. Here, architects continue to explore a gallerylike aesthetic, with apparel showcased in spare landscapes dotted with dioramas, vitrines, and well-tooled custom fixtures and furnishings. Some sectors of the retail industry may remain in the throes of busily themed environmental design, but purveyors of upscale apparel have embraced museum-infused minimalism as a standard-bearer of space design. "The paring away of pastiche, unwanted detail, and decoration in favor of a mix of contemporary design and handcraft skills adds respect and value to a product [on display]," observes retail designer Rasshied Din in his recent book, *New Retail*. "A pared-down retail space can become a three-dimensional marketing tool," concurs architect Michael Gabellini, AIA. Conveying the aesthetic sensibility and image of a designer acclaimed for refined tailoring, Gabellini's New York flagship for Nicole Farhi is an essay in intersecting planes accented by matte-finished surfaces.

Simple geometrical volumes and a richness of materials characterize additional projects on the following pages. The play of light off canted surfaces at Costume National helps connect the architecture to its Los Angeles milieu. Massive stone staircases and silk-between-glass wall dividers at two Dolce & Gabbana boutiques in London place colorful clothing in bold relief. Taking another approach, the XXXY store in Toronto employs a modern box as a mere starting point; edgy graphics and multimedia installations impart a youthful street edge. Shopping represents an element of entertainment for customers, and some clothing boutiques are touting added attractions, from restaurants to lounges.

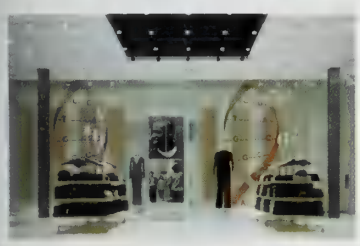
In addition to the shops featured in these pages, 10 other retail projects appear on our Web site as part of our expanded Building Types Study, launched this month. The shopping spree begins here!



1.

Nicole Farhi, New York City

Gabellini Associates introduces new spatial relationships within a historic building to link clothing displays and a restaurant.



2.

XXXY, Toronto

Designed by Yabu Pushelberg, a big white box outfitted with mobile fixtures and electronic gadgetry captures the youth fashion market.



3.

Costume National, Los Angeles

With canted forms and polished surfaces, Marmol Radziner + Associates transforms a former restaurant space into a fashion flagship.



4.

Dolce & Gabbana, London

David Chipperfield Architects adds two new locations to its global rollout of stores for the Italian designers.

NEW: For 10 more retail projects go to Building Types Study at ***www.architecturalrecord.com.*** The monthly expanded Web BTS features project descriptions, photographs, drawings, statistics, and links to people and products.

Nicole Farhi
New York City

1 **GABELLINI ASSOCIATES TRANSFORMS A FORMER NIGHTCLUB INTO A SERENE LANDSCAPE FOR AN INTERNATIONAL FASHION RETAILER.**

By William Weathersby, Jr.

Project: *Nicole Farhi, New York City*
Architect: *Gabellini Associates—Michael Gabellini, AIA, Kimberly Sheppard, principal designers; Daniel Garbowitt, managing principal; Carmen Carrasco, AIA, project manager; Vincent Laino, AIA, project architect; Sarah Cremin, Ben Fuqua, Cathy Jones, Mark Kolodziejcak, Yi-Pei Lin, Nehad Mamon, Lisa Monteleone, Filipe Pereira, Jongku Yee, project team*
Engineers: *Altieri Sebor Wieber (mechanical); Severud Associates (structural)*
Consultants: *Ross Muir (lighting); Higgins & Quasebarth (landmarks)*

Size: *20,000 square feet*
Completion date: *Fall 1999*

Sources
Masonry: *Remco, Academic Stone*
Doors, windows: *Coordinated Metals*
Glazing: *National Glass*
Cabinetry: *Mead & Josipovich*
Custom furnishings: *George Nakashima*
Flooring: *Fordham, I.J Peiser's Sons*
Lighting: *Lightlab Corporation, LTBN, Kurt Versen, Lutron*
Display fixtures: *Opus Magnum*

WWW
For additional retail projects and more information on the people and products involved in this project, go to Building Types Study at **www.architecturalrecord.com**

Program

Clothing designed by Nicole Farhi combines refined materials and precise tailoring in a style that could be called luxurious minimalism. When establishing a retail store in New York City, the London-based designer wanted to follow suit with a similarly clean-lined, finely detailed architectural backdrop. Besides areas displaying men's and women's apparel, the program required discrete spaces to house a 130-seat restaurant and a home-furnishings line. To carve a new modern setting within a historic building that had been shuttered for a decade, Farhi collaborated with Gabellini Associates, an architectural firm that has designed retail stores for high-profile clients including Jil Sander and Giorgio Armani.

Located on East 60th Street between Fifth and Madison Avenues, the Farhi flagship occupies the lower two levels of a Beaux-Art-style structure built as a hotel in 1903. From the 1930s through the late 1980s, the site was home to several incarnations of the Copacabana nightclub. The building is not designated a landmark but falls within a landmark district on the Upper East Side, so the facade was restored with new honed Indiana limestone and Deer Isle granite to match the original stonework.



"Inside, the space was absolutely derelict after sitting vacant for 10 years," says principal architect Michael Gabellini, AIA. "Although we knew we would gut the interiors, the challenge was both structural and programmatic: How do you create retail excitement and a sense of openness in a space that in large part occupies a basement?"

Solution

The new sense of openness is provided by two double-height atria at the front and rear of the plan. The atria flank a 3,500-square-foot main retail space that appears to be

RECORD *contributing editor William Weathersby, Jr., is a writer based in Westport, Conn.*



The refurbished facade features enlarged first-floor windows (left). A walnut-clad entry bridge spans a double-height atrium and frames a view of the lower-level restaurant (below and opposite).





suspended within the volume. Entering from the street, customers walk across a walnut-clad bridge that spans the 26-foot-high front atrium to connect with the main sales floor featuring women's apparel. Bracketed by glass side panels, the bridge affords a view of the restaurant below. Access to the women's fitting area is provided by a second bridge spanning the rear atrium, which houses home furnishings below. Men's apparel is showcased at the rear of the lower level. Walnut staircases at either end connect the two floors.

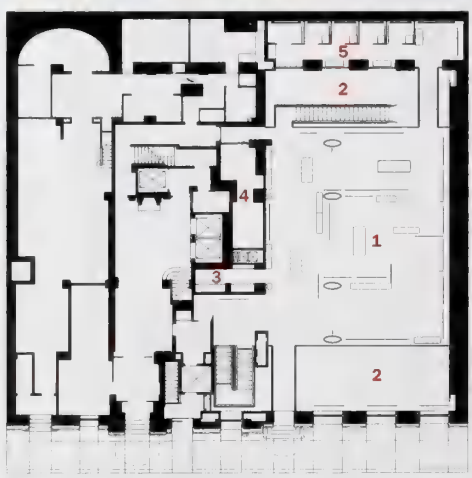
Opening up sightlines was a priority. Transfer beams were inserted to support the weight of the building's 18 floors above the store, allowing the removal of two rows of columns on each Farhi floor. Each floor now is punctuated by four large elliptical columns sheathed in plaster. Enlarged ground-floor windows fill the front volume with daylight and offer passersby a better glimpse inside.

On the main level, a bluestone floor bordered in walnut articulates the floating plane and echoes the tint of the restaurant's plaster ceiling. Display racks suspended from the ceiling and cantilevered shelving heighten the sense of lightness. The women's fitting rooms, veiled by walnut and rice-paper shoji screens, are a luminous backdrop. Ambient neon lighting crisply outlines the edges of the architectural envelope.

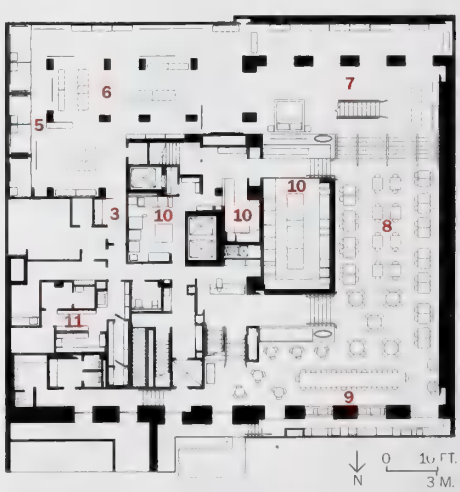
An internally illuminated bar table of estremoz marble anchors the restaurant (opposite). Connecting the upper floor with the home-furnishings area, a staircase features narrow-profile treads of walnut (above).

Commentary

The lower level successfully banishes any basement feeling: a glass-enclosed cube set atop a raised bluestone plinth elegantly houses the open kitchen, while an illuminated marble bar table is a focal point. The narrow space allocated to home furnishings, however, seems attenuated. Benefiting from well-engineered acoustics and food-service ventilation, the restaurant and boutique spaces coexist beautifully. Vista-framing staircases, bridges, and atria handsomely thread together the interior spaces. ■



GROUND FLOOR



LOWER FLOOR

1. *Women's clothing*
2. *Atrium*
3. *Cash/wrap*
4. *Storage*
5. *Fitting rooms*
6. *Men's clothing*
7. *Home furnishings*
8. *Restaurant*
9. *Bar*
10. *Kitchen*
11. *Service area*



XXXY
Toronto

2 **YABU PUSHELBERG COMBINES FLEXIBLE FIXTURES AND MULTIMEDIA INSTALLATIONS WITHIN A MOD BOX TO ATTRACT THE YOUTH MARKET.**

By Beth Kapusta

Project: *XXXY, Toronto*
Architect: *Yabu Pushelberg—George Yabu, creative director; Glenn Pushelberg, managing partner; Andrew Kimber, Sanjit Manku, design team; Mehari Seare, Alex Edward, Shane Park, technical team*
Engineers: *LKM Engineers, AIM Engineering (structural)*
Consultants: *Giancarlo Garofalo Architects*

Size: *9,000 square feet*
Completion date: *November 1999*

Sources
Curtain wall, doors: *Albion Glass*
Signage: *Sunset Neon*
Floor and wall tile: *Forbo Industries*
Flooring: *Stonehard Canada*
Millwork, display cabinets: *Provincial Store Fixtures*
Metal: *Vogue Display*
Lighting: *TPL Marketing*
Scrims: *Metromedia Technologies International*
Paints and stains: *Sherwin Williams, Sikkens*

www
For additional retail projects and more information on the people and products involved in this project, go to Building Types Study at **www.architecturalrecord.com**

Program

XXXY is an act of architectural jean therapy, an attempt to attract the lucrative youth market of teenagers and early-twentysomethings by creating a dozen or so clothing boutiques-in-a-box, the first such undertaking for the Canadian retailer Thrifty's. In addition to housing easily transformed "boutiques" that display varied individual apparel labels on the ground floor, the 9,000-square-foot store also includes a mid-level lounge and a mezzanine-level clothing boutique and shoe store.

Solutions/Intentions

An integrated design and marketing approach developed by partners George Yabu and Glenn Pushelberg caters to the needs of what they call Generation Y, "a market-savvy, culture/fashion-sensitive, and gender-neutral demographic group that is both sophisticated and image-conscious." From a practical point of view, the intention was to create an open and flexible space that could be easily reconfigured as fashion merchandising needs changed from season to season. Aesthetically, the designers wanted the store to establish street credibility with their target consumers, projecting an image that is "fresh, hip, just short of techno but definitely young," says Yabu. To accomplish this, the design team developed a big neutral white box that frames an eclectic palette of materials including vinyl, acrylic, translucent fabric, metal, and steel. The open space is animated by an art-installation approach to both displays and activities staged within the store. Virtually all display units rest on casters so that apparel brands can be switched quickly, expanding or contracting according to the ever-changing market. Inspired by the store's name, a tongue-in-cheek DNA motif features references to biology (genes, chromosomes, gender symbols) projected with strong graphics.

The most successful design gesture is the Soho-style opening of an expansive, double-height space to create an inviting presence on what was a rather dead stretch of Yonge Street in downtown Toronto—an area that is currently the locus of urban revitalization attempts. The project is located across from the refurbished Eaton Centre galleria and just south of a new urban square, which are ambitious components of the ongoing gentrification. Massive XXXY signage, which establishes the store's androgynous theme, is illuminated day and night and creates a synthesis of graphics, marketing, and architecture.

To overcome some of the scale issues of the big-box frame's 25-foot ceiling height, the design team introduced several interior solutions. Luring shoppers to the second-floor

Toronto-based writer Beth Kapusta is a frequent contributor to RECORD.



PHOTOGRAPHY: © EVAN DION





Plastic scrims, embellished beams, and video monitors give XXXY the look of a conceptual art installation (left and far left). A curtain wall and signage market the store billboard-style (below).



shoe area and mezzanine boutique, an expanded mid-run stair landing supports an orange vinyl-encased lounge with oscilloscopes (machines that provide an analogue analysis of the noise levels in the store). Video monitors amid the shoe displays project images of pedestrian feet walking past the store.

Materials

Light aluminum mullions demarcate the 33-foot-high transparent facade, animated by the presence of huge illuminated letters. Windows are covered with translucent scrims lit by high-pressure sodium fixtures.

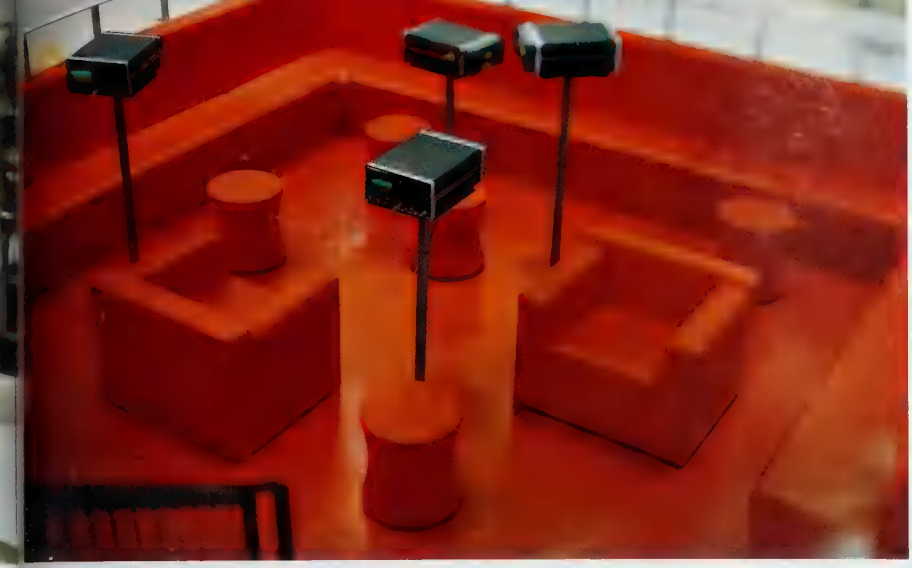
Inside, the "white box" effect is achieved through a monochromatic perimeter treatment combining exposed brick, backlit glass panels, and drywall dressed with built-in fixtures. Lacquered, metallic blue armoires-on-wheels break the perimeter into a series of U-shaped boutiques. Throughout, custom fixtures include mobile cabinets made of sealed particle board and equipped with built-in lighting fixtures. The fire-proofed steel structure of the mezzanine is turned into a fetish rather than hidden: gray furry fireproofing is wrapped with transparent zippered plastic covers that look like architectural raincoats. The "rubber lounge" upholstered in orange vinyl seems an almost monolithic continuation of the orange epoxy floor.

Commentary

The agenda to meld marketing and design at XXXY is somewhat undermined by the obscurity of some gestures. It is the big, urban scale that achieves a significant power, while groovy electronic details are less engaging. This retail space seems to wrestle with something of an identity crisis, perhaps a fitting metaphor for its patrons. ■

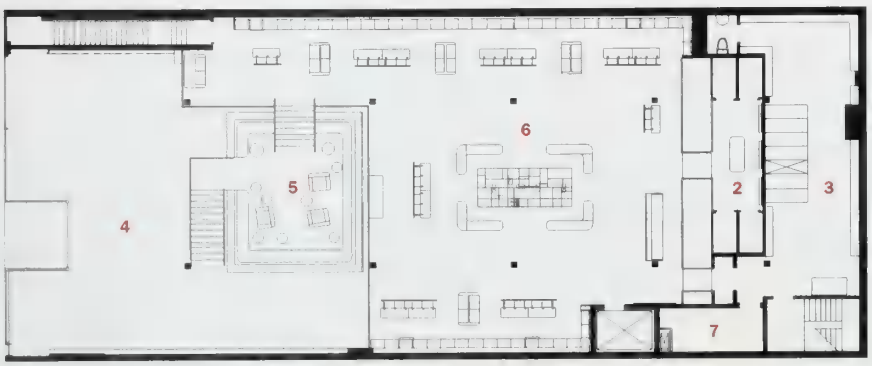






Mobile shelving units with integrated lighting are easily reconfigured (below left). The steel cash/wrap desk is framed by a treelike column sprayed with fireproofing (far left). A stair landing serves as a futuristic lounge (left).





SECOND FLOOR



GROUND FLOOR

N 0 10 FT. 3 M

1. *Cash/wrap*
2. *Fitting rooms*
3. *Storage*
4. *Open to below*
5. *Lounge*
6. *Shoe boutique*
7. *Meeting room*

Costume National
Los Angeles

3 **MARMOL RADZINER + ASSOCIATES ORCHESTRATES A PLAY OF LIGHT WITHIN A SPACE DEFINED BY ANGLED PLANES AND GLISTENING SURFACES.**

By David Hay

Project: *Costume National, Los Angeles*
Architect: *Marmol Radziner + Associates—Leo Marmol, AIA, managing principal; Ron Radziner, AIA, design principal; Stephanie Hobbs, project architect; Nicole Starr, Huay Wee, project team*
Engineers: *Niver Engineering*
Consultants: *John Brubaker Architectural Lighting Consultants*

Size: *3,000 square feet*
Completion date: *March 2000*

Sources
Skylights: *Aluminex/Skyview*
Flooring: *Ardex*
Hardware: *FSPB, Baldwin*
Lighting: *Bartco, B-K Lighting, Lightolier*
Furniture fabrication: *Monte Allen*
Fire-control doors, security grilles: *QMI Roll Shutter Supply*
Paints and stains: *Sinclair Paint*
Lighting: *Bartco, B-K Lighting, Lightolier*

www
For additional retail projects and more information on the people and products involved in this project, go to Building Types Study at **www.architecturalrecord.com**

Program

Milan-based fashion designer Ennio Capasa wanted to make a statement when he opened a branch of his Costume National line in Los Angeles. Located on a fashionable stretch of Melrose Avenue in West Hollywood that includes retailers such as Fred Segal and Miu Miu, the 3,000-square-foot store presents a minimalist environment as a foil for upscale fashions. "The store had to show what sort of fashion company Costume National is, yet it had to be done in a way that expresses what Los Angeles is all about," says principal architect Ron Radziner of Marmol Radziner + Associates.

Solution

The architects distilled the "essential Los Angeles" to a play of light off sleek planes. This approach was a departure for Costume National, which has relied on a stark color palette as the signature element in previous stores; European shops are all white, while the New York branch is defiantly black. Here on the West Coast, Marmol Radziner believed that a deft combination of abundant natural light and artificial illumination would give the space a distinctly Southern Californian feeling, without diminishing the client's need for a demonstrative showcase for flashily detailed clothing. "We decided we would use light in different ways," Radziner says, "highlighting the glistening qualities of interior surfaces in some places and creating shadows in others."

Working within the footprint of a former restaurant space, the design team first increased the amount of available light coming into the store. Six windows lining two perimeter walls of the building were enlarged to almost floor-to-ceiling dimensions, and the existing skylights were refurbished. To help capture the incoming daylight, existing details such as the sloping roof and a curved corner entrance were retained. The light and airy ambience is reinforced with a pearl-gray waxed concrete floor.

The slanting ceiling, which measures 17.5 feet high at the east side of the store, inspired the use of three canted divider walls that form alcoves where clothing is displayed. The shortest wall, measuring 8.5 feet long, is nearest the front of the store, while the longest, at 20.5 feet,





FLOOR PLAN

1. *Main display*
2. *Hanging display*
3. *Cash wrap*
4. *Seating*
5. *Fitting rooms*
6. *Storage*

David Hay is a Los Angeles–based writer on architecture and the arts.

The windows of the existing building were expanded to nearly floor-to-ceiling height to create a grand scale and open feeling.



is parallel to the rear wall. The dividers create a staggered sightline from front to back along one side of the store, with the remaining interior space on the opposite window walls left open. "When you enter the front door, you can understand the totality of the space in just one glance," Radziner says.

To supplement the play of sunlight in the space, the architects highlighted display areas in the darker, shadowed alcoves with fluorescent and LED illumination.

Taking a cue from display fixture detailing in other Costume National stores, the architects arranged large boxes along the walls to serve as backdrops for clothing hung from stainless-steel rods. Backlighting behind the boxes makes them appear to float off the wall, an effect that extends to the clothes. When a customer picks out a leather jacket, for example, it is as if he or she is plucking it out of thin air. Set between the windows, floor-to-ceiling runs of Lucite shelves displaying accessories are lit by a custom LED system.

Materials/Detailing

The lighting effects would not work successfully without deft material counterpoints. The wall boxes, for example, are painted a high-gloss white lacquer. To confine the sheen to the boxes themselves, the walls behind are painted a contrasting putty shade. The waxed concrete floor provides a further surface glistening with light. Suede and leather-upholstered seats punctuate the austere surfaces.

Commentary

At Costume National, design accomplishes a distinctly contradictory goal: making a quintessentially spare Los Angeles space feel luxurious. Costume National's recent winter line, combining dark hues and an unusual variety of fabrics ranging from Lurex to chiffon, is a far cry from L.A. casual. Yet thanks to the architect's use of light, customers are reminded, almost unconsciously, of where they live. They may be buying the best of Milan, but they feel at home. ■





Partitions staggered along one side of the store accommodate clothing racks, allowing the luxury of the wrap-around windows (left). Apparel is sparsely displayed in museumlike vitrines (above).



Framed by backlit boxes, clothing hung on wall racks appears to float. Daylight plays off the subtle gradations of the neutral palette.

Dolce & Gabbana
London

4 **DAVID CHIPPERFIELD ARCHITECTS CREATES GALLERYLIKE SPACES AS BACKDROPS TO SHOWCASE ITALIAN FASHIONS IN TWO LONDON SHOPS.**

By Marcus Fairs

Projects: *Dolce & Gabbana, London, Old Bond Street and Sloane Street*
Architect: *David Chipperfield Architects—David Chipperfield, design principal; Andy Groarke, project architect; Patrick Campbell, Takeshi Hayatsu, Mansour El-Khawad, Jonathan Wong, design team*
Engineers: *Michael Hadi Associates (structural); BDSP (mechanical/electrical, Old Bond Street); Environmental Engineering Partnership (mechanical/electrical, Sloane Street)*
Consultants: *Metis Lighting*

Size: *8,000 square feet, Old Bond Street; 4,000 square feet, Sloane Street*
Completion date: *November 1999, Old Bond Street; July 2000, Sloane Street*

Sources
Metal/glass curtain wall: *Chimetal*
Hardware: *Allgood*
Seating, cabinetry: *B&B Italia*
Lighting: *Fontana Arte*

www
For additional retail projects and more information on the people and products involved in this project, go to Building Types Study at **www.architecturalrecord.com**

Program

When Italian couturiers Domenico Dolce and Stefano Gabbana decided to create a new architectural image for their retail stores worldwide, they commissioned an Englishman with a reputation for crisp modernism. It turned out to be a perfect marriage of two cultures. Dolce & Gabbana required a design treatment that complemented their exuberant clothes without competing with them. David Chipperfield Architects responded by treating the stores almost as galleries in which the clothes, artfully grouped in ever-changing scenographic "families," instead of hung from rails, become the exhibits.

Chipperfield developed a pared-down palette of luxurious Italian materials and bespoke fittings, annotated in a 180-page construction manual for associate architects around the world. Having perfected the architectural language in flagship D&G stores in Milan's Via della Spiga and Sardinia's Portocervo, Chipperfield made his first foray outside Italy in his home city of London. Dolce & Gabbana is now rolling out 14 additional Chipperfield-designed stores from Moscow to Osaka.

The first of two London D&G locations opened on Old Bond Street. At the heart of the old-money Mayfair district, the street has recently reemerged as the city's most desirable fashion thoroughfare. The store occupies the ground floor and basement of a 19th-century building close to establishment landmarks such as the Ritz Hotel and the Royal Academy.

Marcus Fairs is a London-based writer and editor who specializes in design and architecture.

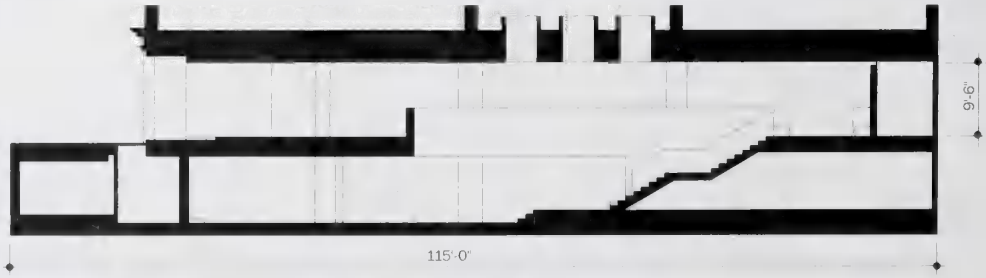
Solution

"It was more of an architectural challenge of shaping space than fitting out a retail shop," says Andy Groarke, Chipperfield project architect. "The space was built to last 15 to 20 years." After a four-month drawing stage, construction took 22 weeks. The 8,000-square-foot space was stripped to its core and completely reconfigured. A new limestone fascia matching the original stonework—a solution driven by Old Bond Street's strict conservation laws—presents a discreetly elegant face to passersby.

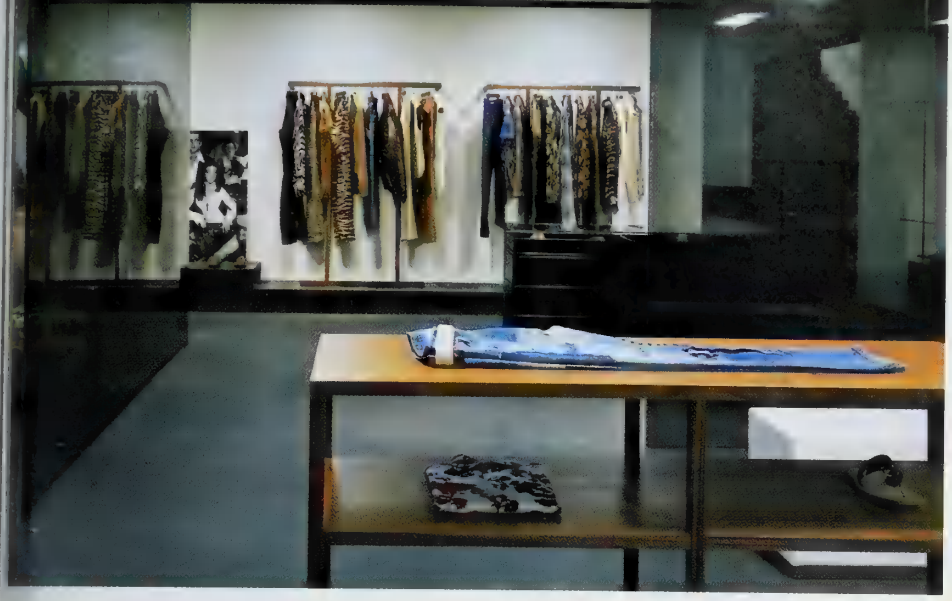
Set behind the facade is a laminated glass screen dividing the window display area from the retail floor. Each of the nine-by-four-foot panels features black silk chiffon sandwiched between two sheets of strengthened glass, custom-fabricated in Italy.

The key architectural element, a palatial staircase, links the ground and basement levels. "Originally there was an apology of a staircase at the back of the plan," says Groarke. "So we knocked out a huge void. Ordinarily it wouldn't make sense for a retailer to do this because you lose so much floor space, but the client wanted a strong architectural gesture."

The stairs and balustrades are constructed from 2⅜-inch-thick basaltina, a silk-smooth, dark gray Italian stone. "The idea was to achieve an almost Sicilian volcanic feel," explains Groarke. Basaltina is



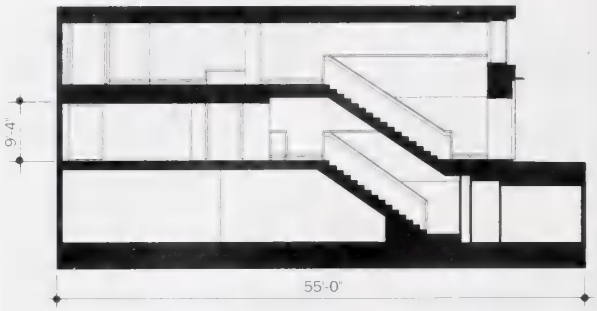
OLD BOND STREET STORE



Laminated glass screens with silk inner layers form a contrast to plaster walls and basaltina stone floors in the Old Bond Street store (left and below). Clothes are displayed on teakwood racks.







SLOANE STREET STORE

also used for the cashier's desk and the stepped display benches that hug the edges of the retail space. More than 500 pieces of stone were used, weighing up to 440 pounds each and cut to a tolerance of .039 inch (1 mm) at a stone yard near Rome.

Commentary

Descending the staircase is a highly theatrical experience. Shoppers are swept from the light and spacious ground level to the boudoirlike lower level, where one's eye is held by a tableau of objects personally selected by Domenico Dolce and Stefano Gabbana: a gilt Baroque throne, giant potted cacti, and zebra-skin rug. Throughout, the architect's technical achievement creates a pristine environment entirely free from visually distracting details such as air-conditioning grilles, light fittings, and ironmongery. The store is lined with false plywood walls hiding what Groarke describes as an "oil-refinery type setup of pipes" that channel chilled air through a narrow shadow gap at ceiling height.

"We lost up to eight inches at the perimeter of the wall, but the idea was to make you feel there was no air conditioning at all," says Groarke. "To get the kind of tolerances we wanted it took an incredibly long time to design it with the mechanical consultants." Smoke tests were conducted on a mock-up of the entire shop in a German factory to ensure the shadow gap functioned effectively.

Custom lighting was designed in collaboration with an Italian firm. Fluorescents and adjustable spotlights are housed in aluminum cases faced with polycarbonate diffusers set flush with the ceiling.

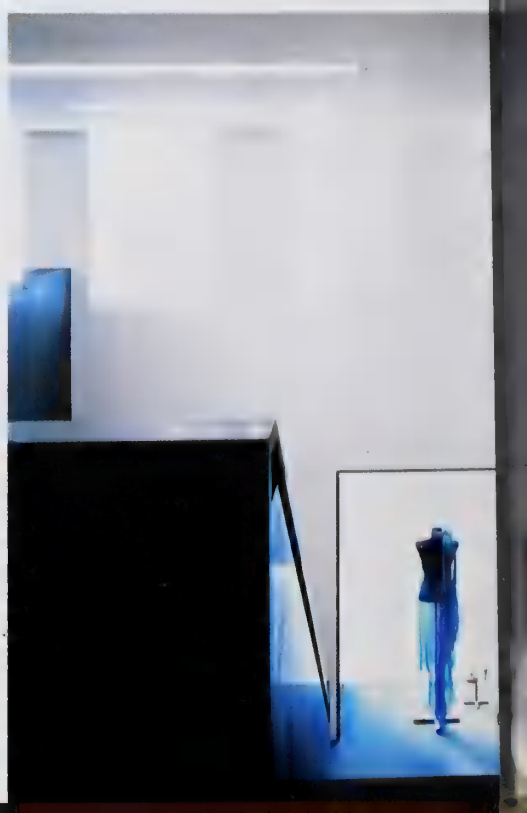
A second London store

Sloane Street in west London's elite Knightsbridge shopping district presented the architects with a tighter, 4,000-square-foot space spread over three floors of an unremarkable 1970s building. Dolce & Gabbana's existing store at the site closed for demolition the day the Old Bond Street flagship opened, to be converted into a boutiquelike store stocking women's apparel only. The tall, narrow space contrasts with the wide, horizontal floor plate at Old Bond Street. The store employs the same palette of materials, but the absence of conservation restraints permitted greater freedom in the treatment of the facade. Graphite-gray sprayed metal panels developed in Tuscany were used to line the windows at Old Bond Street. At Sloane Street, however, the architects opted to clad the entire facade in the same surfacing to create what project architect Jonathan Wong describes as "a monolithic display of materials."

In the Sloane Street store, a basaltina staircase again is the major design statement, a spiraling circulation route connecting the basement, ground-, and first-floor levels. Hand-crafted teak handrails add a sculptural touch. A chunky vertical stripe of teak is also used on the facade to signal the location of the door—the only intervention in the otherwise entirely metal-and-glass street frontage.

The timber flourishes complement teak display furnishings developed with an Italian furniture company, and which outfit all D&G stores worldwide. Glass display cases are lined with black-stained oak drawers. ■





The three floors of the Sloane Street Dolce & Gabbana boutique are linked by a triple-height void formed by the basaltina stone staircase (right). Ceilings remain sculptural and seamless, punctuated only by custom light fittings (above).


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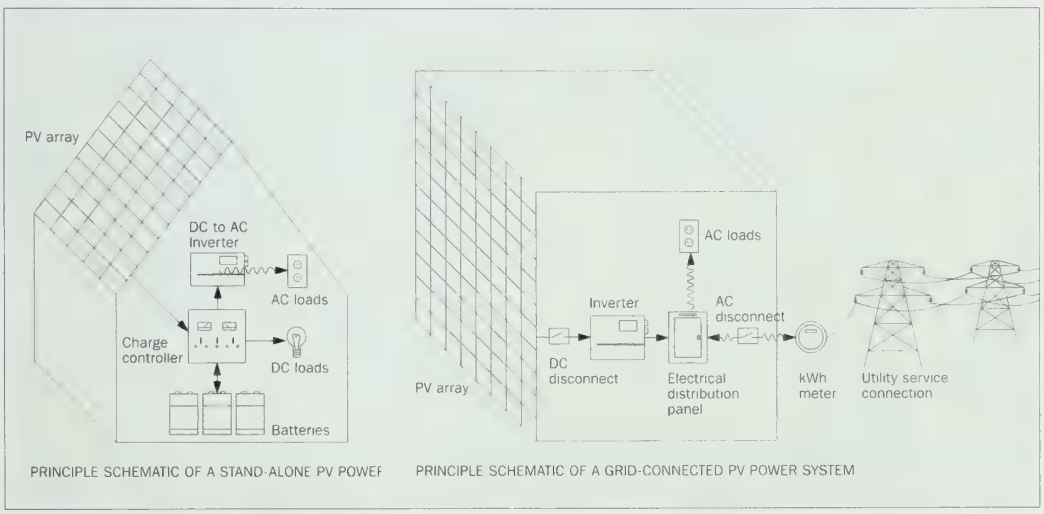
Photovoltaic technology comes of age

NOW EMBRACED BY TOP DESIGNERS, SOLAR-COLLECTING BUILDING COMPONENTS MAY EVEN INFLUENCE ARCHITECTURAL FORMS.

By Nancy B. Solomon, AIA

Photovoltaics. For many of us, the term conjures up images of shiny black panels mounted awkwardly and conspicuously on the roofs of remote buildings. Energy-saving, environmentally correct, but not architecturally elegant.

That picture is now changing. The industry has evolved dramatically over the past decade. Photovoltaic panels, which convert sunlight to electricity without consuming fuel or creating pollution, are no longer tacked-on appendages begging to be concealed. Today well-known architectural firms integrate these building components into large commercial buildings, as well as high-rise residential and institutional projects. And instead of being hidden, the photovoltaics are more often celebrated as part of the overall design.



In the earliest architectural applications of photovoltaic technologies, standard-sized modules were typically installed on remote residential projects that had no access to utility power (above left). Today, a range of PV products are being integrated into larger projects that are connected to the utility grid (above right).

"This is a new architectural material," explains Colin Cathcart of Kiss + Cathcart, Architects, in Brooklyn, N.Y. "Yes, it comes from the high-tech and environmental worlds, but it is ready to be used for any building of any function."

The industry refers to such building-integrated components as BIPV systems. These products are designed to replace more traditional building elements, while also producing electricity. Photovoltaic materials are now available for virtually all surfaces of the building envelope. For example, architects can specify photovoltaic shingles, metal standing-seam or exterior insulation systems for the roof. Solar-collecting spandrels, insulated glass units, and sunshade elements are available for curtain-wall systems. And glazing that produces electricity while allowing various degrees of transparency can be ordered for skylights.

Contributing editor Nancy B. Solomon, AIA, writes about computer, building technology, and practice topics of interest to the architectural community.

CONTINUING EDUCATION

Use the following learning objectives to focus your study while reading this month's ARCHITECTURAL RECORD/ AIA Continuing Education article. To receive credit, turn to page 186 and follow the instructions.

LEARNING OBJECTIVES

After reading this article, you should be able to:

1. Discuss new ways to incorporate photovoltaic materials into buildings.

2. Explain how photovoltaic-generated electricity is used or stored.

3. Describe how panels can be used to maximize their efficiency.

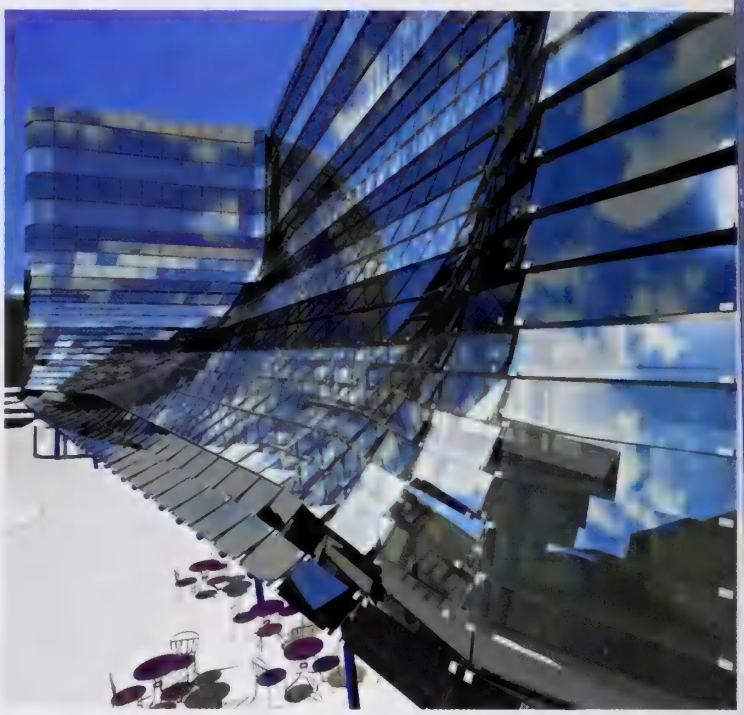
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Lower prices, higher demand

This evolution of photovoltaic panels into legitimate building products has been the gradual and logical result of a number of converging factors. Government and utility programs have encouraged the development and installation of PV products that are more in tune with the needs of the architect. This support has helped lower the price of BIPV products, making them more competitive with traditional building materials. The reduced price has also made photovoltaic-generated electricity more competitive with traditional energy sources and, therefore, a viable contributor to the electrical utility grid.

In the meantime, many public and corporate clients have come to recognize the positive educational and public-relations benefits that can be reaped from the new technology. Because BIPV products must be part of the building envelope to receive direct sunlight, this energy-efficient strategy is highly visible. More and more clients are willing to pay an additional 1 or 2 percent of total construction costs to have such an enduring symbol of environmental responsibility, says Steven Strong,

president of Solar Design Associates in Harvard, Mass. "It's not the torn T-shirt crowd anymore. Turner Broadcast, Lucent Technology, Merrill Lynch are considering it now," he adds. Even British Petroleum, which now advertises that its acronym, BP, stands for "beyond petroleum," is starting to build PV canopies above its gas-station pumps worldwide.



Technical details

The photovoltaic effect describes the process by which direct-current (DC) electricity is produced when light strikes a semiconductor such as silicon, cadmium-telluride, or copper indium diselenide (see sidebar). Semiconductors are solid-state materials that are treated to allow current to flow through them under certain circumstances. Photovoltaic systems were developed decades ago for the NASA space program.

Photovoltaic-generated electricity can be used as is, stored in a battery for later consumption, or, in the most common building scenario, converted to alternating current (AC) by an inverter. The AC power is used by the building. Excess solar electricity is "sold" to the utility company. In many states, the "sale" takes place by effectively spinning the electric meter backward, providing the PV owner with full retail value for the solar electricity.

The basic building block in a BIPV system is a PV module, which itself is made of PV cells. Modules are linked together in series with

Defining BIPV products

BIPV products fall into one of two categories: crystalline and thin-film. The crystalline technology relies on silicon as the semiconductor material. It is currently available in three types: single-crystal, polycrystalline, and crystalline ribbon.

Both single-crystal and polycrystalline are essentially produced by creating solid blocks from molten silicon. The resulting ingot is sawed into wafers about 5 inches square and .012 inches thick. In the production of crystalline ribbon, the molten silicon flows through a die to form a faceted pipe or flat ribbon, which is then sliced with a laser into similarly sized wafers.

These wafers are processed into cells, which are soldered together in series to achieve the desired voltage. The series is then laminated onto glass. The laminated cells are covered by a plastic backsheet or another sheet of glass.

Single-crystal cells are usually a flat black; polycrystalline cells are a sparkling shade of blue; and crystalline ribbon cells tend toward purple. Custom colors, though possible, decrease the cells' rate of efficiency—the percent of incident sunlight converted into electricity.

The typical crystalline PV module is 18 inches by 4 feet with a 4-by-4-inch junction box on the back for electrical connections. This 6-foot-square module holds 36 cells, which is the number necessary to charge the 12-volt storage battery typically used for off-the-grid applications. When photovoltaic panels are connected to the grid, however, the industry is not constrained by battery-charging requirements. Modules of nonstandard sizes, shapes, and features are now available from second-tier fabricators, who purchase the cells from major PV manufacturers.

Working with such fabricators, an architect can tailor the module to suit the design. The transparency can be adjusted by changing the spacing between the opaque cells. The backsheet or interior glass can be tinted to modify the panel's color. A connector can be installed at the edge of the panel in lieu of the junction box to allow for uninterrupted views. And the two-pane glass module can be inserted into an insulated glass unit.

Thin film

In thin-film technology, the photovoltaic material is applied as a thin layer to a superstrate or substrate, typically through a process called vapor deposition. One type of thin film, amorphous silicon, has been commercially available for about 15 years. Two others, cadmium-telluride and copper indium diselenide, are just entering the market.

Thin film is typically coated onto the interior face of a glass sheet. A laser etches a pinstripe pattern of solar cells that are subsequently encapsulated by another sheet of glass. One PV manufacturer vapor-deposits amorphous silicon onto a thin, flexible stainless-steel substrate and then covers it with plastic. Thin film can also be sandwiched between two layers of plastic.

Thin-film modules are dark charcoal to near-black and, from a distance, appear opaque. A computer-guided laser can burn a screen pattern of tiny holes through the material to allow for light and views. The greater the transparency, the greater the manufacturing cost and the lower the electrical output.

Currently, equipment and manufacturing processes limit the dimensions of thin-film products to roughly 8 square feet. Like the crystalline version, the double-glass module can be fabricated into an insulated glass unit.

Efficiency and costs

Generally speaking, single-crystal is the most efficient in terms of electrical output, but it is also the most expensive to manufacture. The sunlight-to-electricity conversion rate is 12 to 15 percent for single-crystal; 11 to 14 percent for both polycrystalline and crystalline ribbon; and 5.5 to 7.5 percent for amorphous silicon. The newer thin-film technologies promise slightly higher efficiencies than amorphous silicon. The average cost for a reasonably sized order of 20 kW (peak) standard factory modules is about $6.50/ watt or $78/square foot for single-crystal; $6.25/watt or $71/square foot for both polycrystalline and crystalline ribbon; and $5.50/watt or $28/square foot for amorphous silicon. Actual costs will vary, depending on the module's specific features. *NBS*

Hamburgische Electricitäts-Werke AG

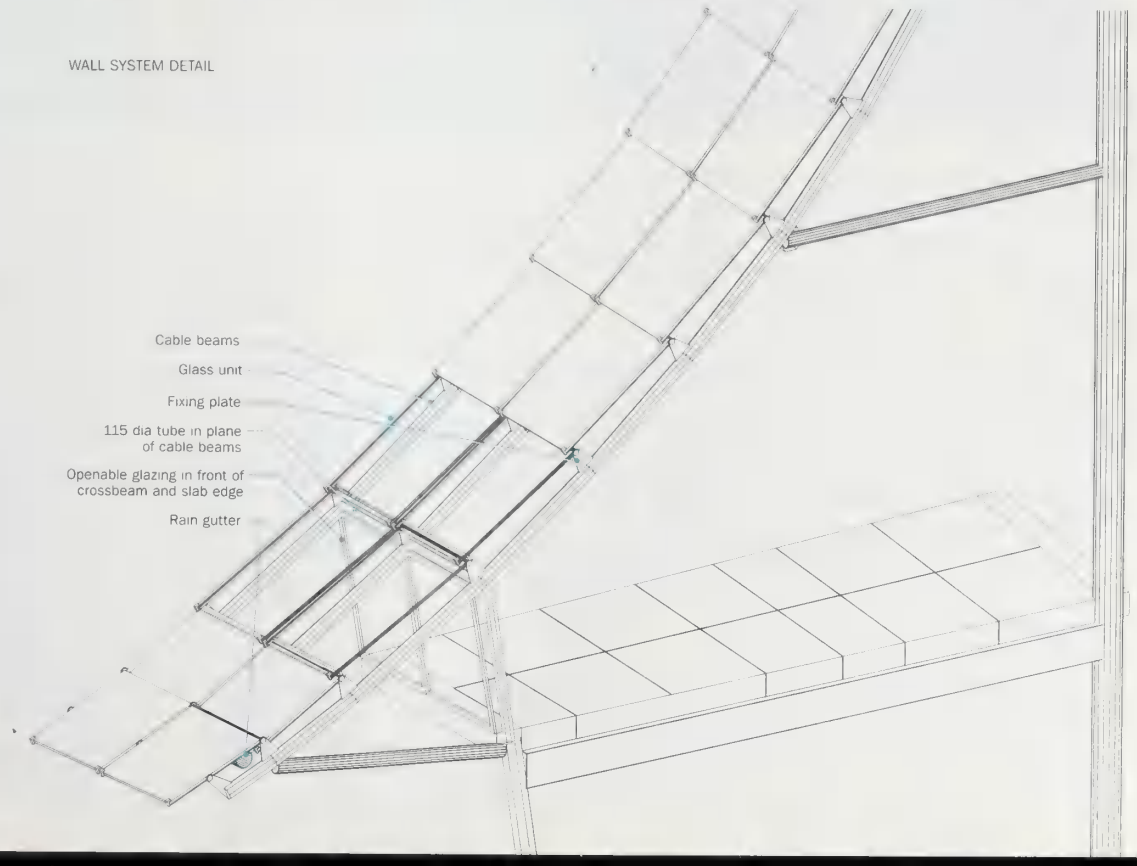
Architect: *Kiss + Cathcart, Brooklyn, N.Y.*

Architect of record: *Sommer + Partner, Berlin*

Cost: *$3.3 million*

Engineer: *Ove Arup, N.Y. and Berlin*

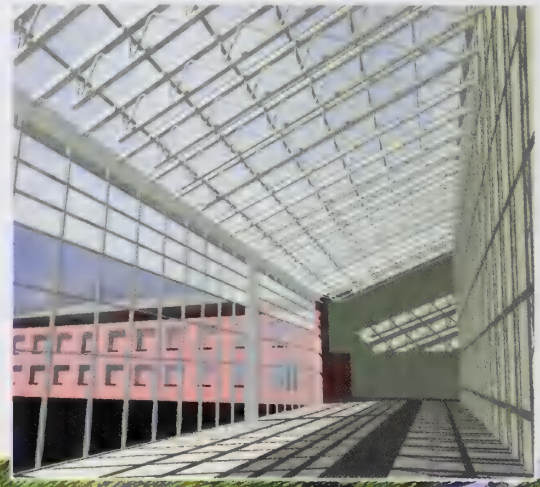
To stop water and air from infiltrating the customer center of this electrical utility company in Hamburg, Germany, the architects proposed draping a second skin of photovoltaic glass over the original curtain wall (above). The space created between the two would allow for several amenities, including an employee winter garden on the first floor and an outdoor cafe on the ground floor (opposite page). Glass alternates with polycrystalline PV panels in a shinglelike fashion (right).



University of Wisconsin, Green Bay

Architect: *Hellmuth, Obata + Kassabaum, St. Louis*
Architect of record: *Somerville, Inc., Green Bay, Wis.*
Estimated cost: *$14.5 million (building, site improvements, and interiors)*
Engineer: *Design Engineer: William Tao & Associates, St. Louis; Engineer of Record: Somerville Inc, Green Bay, Wis.*
PV consultants: *Solar Design Associates, Harvard, Mass.*

When Wisconsin Public Service heard of the University's plan for a new campus center that would be a model of energy conservation, the local utility offered funding for a BIPV system in order to investigate this technology. Two types were specified: a PV module laminated on a standing-seam metal roof, and a laser-etched amorphous silicon thin-film glass, to be installed on the sloping roof and upper portion of the south-facing wall of a winter garden (right).





conduit to form a PV array. The structural and electrical interface between the PV module and the building itself—including the structural attachments that hold the modules in place, the wiring that emanates from the module, and the inverter—is referred to as the balance-of-system (BOS) hardware. The entire BIPV system includes the modules themselves plus the BOS hardware.

One of the biggest issues facing the industry today is the lack of uniform interconnection standards—the rules that one has to satisfy to plug a BIPV system into a utility grid. Depending on the region, these standards are established by the utility, the state government, local building codes, or some combination of the three. The standards vary from state to state and from utility to utility. Some are relatively easy to follow; however, others are not: According to Paul Wormser, director of technology at Solar Design Associates, one utility company in Massachusetts has 30 pages of interconnection requirements, while the utility for the neighboring district has only 3.

Some regions, for example, may require a particular type of inverter. Others may have special requirements for accessing and disconnecting the electrical system. Some states allow net-metering while others do not. And some utilities require proof that the solar-generated power will meet a certain level of quality. Because of the particular interconnection requirements, a system designed for New York City may not work for Los Angeles. "Uniform standards would make a huge difference, but they are not yet on the horizon," notes Wormser.

When union workers are on a job, their rules will also have to be considered since photovoltaic panels combine components that are often handled by separate trades. Is a curtain-wall PV module, for example, a glass product installed by a glazier or an electrical device handled by an electrician? Although not an insurmountable problem, this question should be resolved early so there are no misunderstandings once construction begins. Typically, the electrician runs conduit and installs junction boxes at the appropriate locations while the glazier sets the glass in place and plugs it in.

Although the photovoltaic panels themselves are known for their durability—they have no moving parts and some have been producing electricity for over 30 years—the architect must ensure that they will be properly maintained. Overgrown trees or accumulated dirt, for example, will block light rays, thereby reducing the panels' output.



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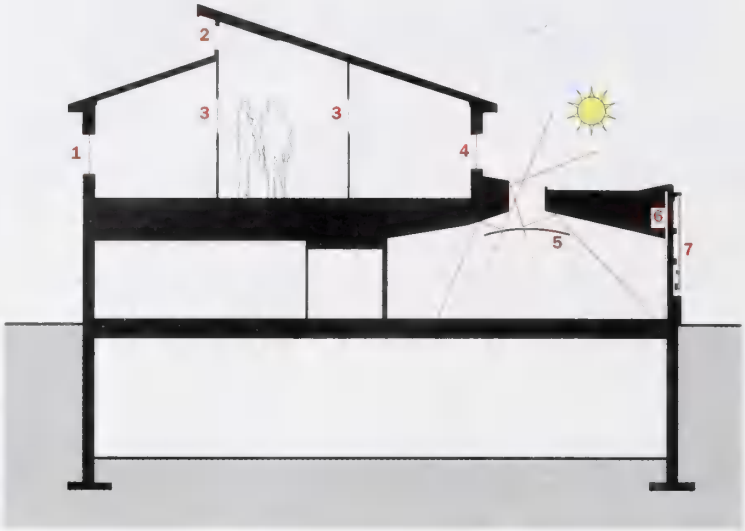
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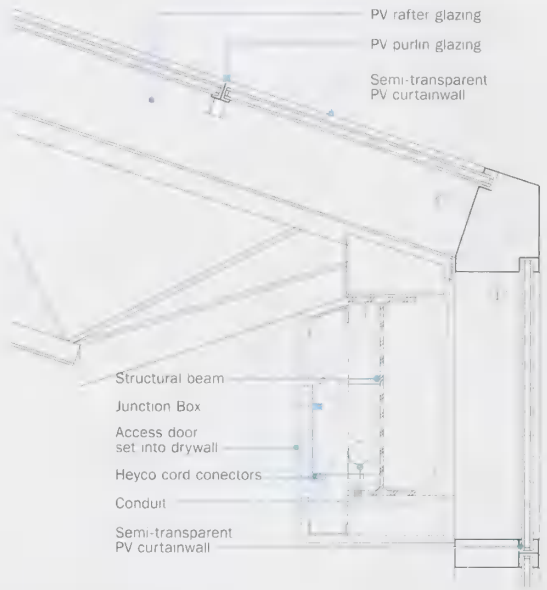
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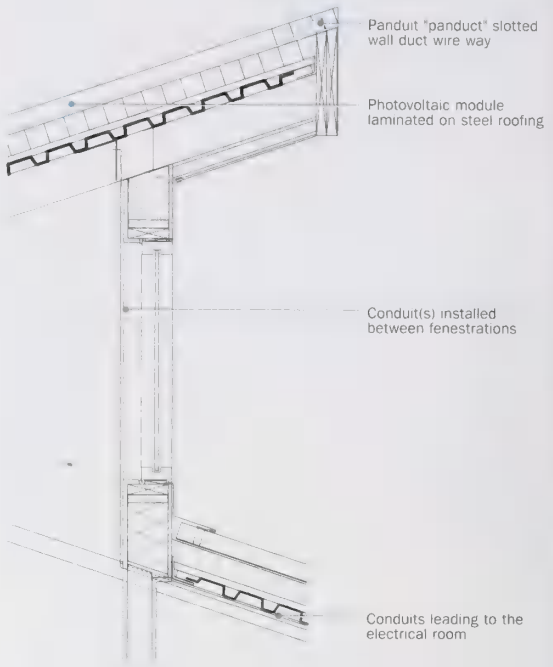
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6. *Air intake for solar wall system*
7. *Solar panel wall system*



PHOTOVOLTAIC GLAZING DETAIL



PHOTOVOLTAIC ROOF DETAIL

To make the most of solar-generated electricity, the building should be as energy-efficient as possible. At the University of Wisconsin, the architects relied on skylights and clerestory windows to maximize daylight in the interior spaces (above left). Through various channels and conduits, wires from the PV roof array make their way to the electrical room (above right). At the winter garden, wiring from thin-film PV glazing modules loops around the structural beam to a junction box (left).

Maximizing output

The potential amount of electricity produced by a photovoltaic panel is a function of the building location and the panel's efficiency (see sidebar) and orientation. Different geographic regions receive different amounts of solar radiation, depending on their latitude (the southern half of the United States, of course, receives more sunshine than the northern half) and cloud coverage (North Dakota, for example, is sunnier than New York; Arizona gets more sun than Florida). Such climatic information can be obtained from the Department of Energy's National Renewable Energy Laboratory in Golden, Colo.

And, of course, energy output will be greatest when the solar panels are oriented to receive the most sunlight. To maximize the annual solar harvest, products installed on buildings north of the equator should face south and be set at a tilt from the horizontal equal to the site latitude less 10 to 15 degrees. Variations from this optimum will reduce the solar harvest by up to 30 percent. The reverse holds true for projects south of the equator.

Such orientations and angles will be modified if the goal of the BIPV system is to maximize electrical output at particular times or seasons. According to Rafael Pelli, AIA, principal at Cesar Pelli & Associates in New York, the technology works best as a peak-shaving strategy: "The panels should be situated to obtain the most power when the building has the greatest peak loads and, therefore, the owner is paying the most money for electricity."

Many of the high-profile buildings being designed today with BIPV systems will only reap a small percentage of their total electric requirements from photovoltaic technology. The photovoltaic system that Cesar Pelli & Associates of New York is integrating into a new residential tower in Manhattan's Battery Park City, for example, will provide 5 percent of that building's total peak electric load. And a new academic building designed by Hellmuth, Obata + Kassabaum in St. Louis for the University of Wisconsin at Green Bay will receive 8 percent of its power from photovoltaics. But, says Wormser, depending on the massing, location, and photovoltaic design, it is already possible for certain types of buildings to satisfy all their electrical needs from BIPV systems.

Payback

The cost of electricity plays a large role in determining the cost-effectiveness of a particular BIPV system in a particular geographical region.

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According to Richard Perez, a research professor at the Atmospheric Science Research Center in Albany, N.Y., the cost of electricity ranges across the country from 4 cents to 25 cents per kilowatt hour (kWh). In the continental United States, the cost of electrical power is highest in the northeast and in southern California. Hawaii is also extremely expensive.

In addition, certain regions of the country receive the most power from the sun when it is most needed, and therefore most valued. This happens to be true for the big cities in the Northeast, the central plain states, California, and Arizona. New Yorkers, for example, benefit from this coincidence since the sun is strongest midday, when commercial energy loads are highest. But Floridians do not because their demand for electrical power peaks on cold winter mornings.

Even in areas with high utility rates, however, the payback derived from solar-generated electricity accrues very slowly. For example, according to Dan Nall, P.E., AIA, director of advanced technologies at the engineering firm of Flack + Kurtz in New York, a standard PV module installed on a vertical, south-facing wall in New York generates about 1,000 watt hours (1 kWh) per year per watt of rated module power. If 1 kWh is worth 20 cents and the BIPV system costs eight dollars per watt installed, it would take 40 years of electrical output to compensate for the system's first costs, financial incentives aside.

BIPV proponents suggest, however, that other variables should be considered in the payback calculation. BIPV products, for example, typically take on the role of other building products, so construction costs are actually reduced by the elimination of both the materials and installation charges for those other products. And in comparison to very expensive building materials, such as polished Italian marble, PV modules may be less expensive.

In addition, the federal government offers two financial incentives to incorporate BIPV products in a building: a 10 percent investment tax credit and a five-year accelerated depreciation. And some states offer "buy-down" programs in which they pay some or all of the BIPV costs.

Most significantly, as demand grows, as more projects are built, and as utilities, insurance companies, contractors, and others in the construction field become more familiar with the innovative technology, the costs of BIPV systems are projected to decrease, resulting in a shorter payback period.

Building design

Photovoltaics can be one of the most visible components of an energy-efficient building. It should not, however, be the first—and certainly not the only—energy-savings measure considered during design. "The building needs to be worthy of a solar array," explains Strong. Architects should first optimize the project's site orientation and massing, incorporate passive solar heating and cooling strategies, maximize daylighting opportunities, specify energy-efficient equipment, and consider energy-recovery systems to reduce the building's overall energy needs. The benefits of solar energy will not be fully realized until the building is as energy-efficient as possible.

The advent of cost-effective, building-integrated photovoltaics has, however, made sustainable designers rethink the nature of energy-conscious architecture. In the past, people were taught that boxy buildings—those with relatively small surface areas in comparison to their internal volumes—were the most appropriate because they can conserve the most energy. "But now that buildings can be energy producers," explains Cathcart, "that need not be the paradigm anymore. Instead, buildings with BIPV systems should be slimmer and more elongated to maximize their surface areas. They should reach out to the sun with lots of glassy surfaces, canopies, and pergolas to collect solar energy for electricity." Architectural heliotropism: filled with silicon instead of chlorophyll, buildings mimic plants as they turn and bend toward the light. ■

AIA/ARCHITECTURAL RECORD CONTINUING EDUCATION

INSTRUCTIONS

- **Read the article "Photovoltaic Technology Comes of Age" using the learning objectives provided.**
- **Complete the questions below, then check your answers [page 186].**
- **Fill out and submit the AIA/CES education reporting form [page 186] or file the form on ARCHITECTURAL RECORD's Web site at www.architecturalrecord.com to receive one AIA learning unit.**

QUESTIONS

1. With regard to photovoltaic panels, what changes have taken place in the last decade?

2. What brought about the increased use of photovoltaic panels?

3. How is photovoltaic energy used or stored for future use?

4. How can you maximize the efficiency of photovoltaic panels?

5. How is the cost-effectiveness of BIPV systems determined?

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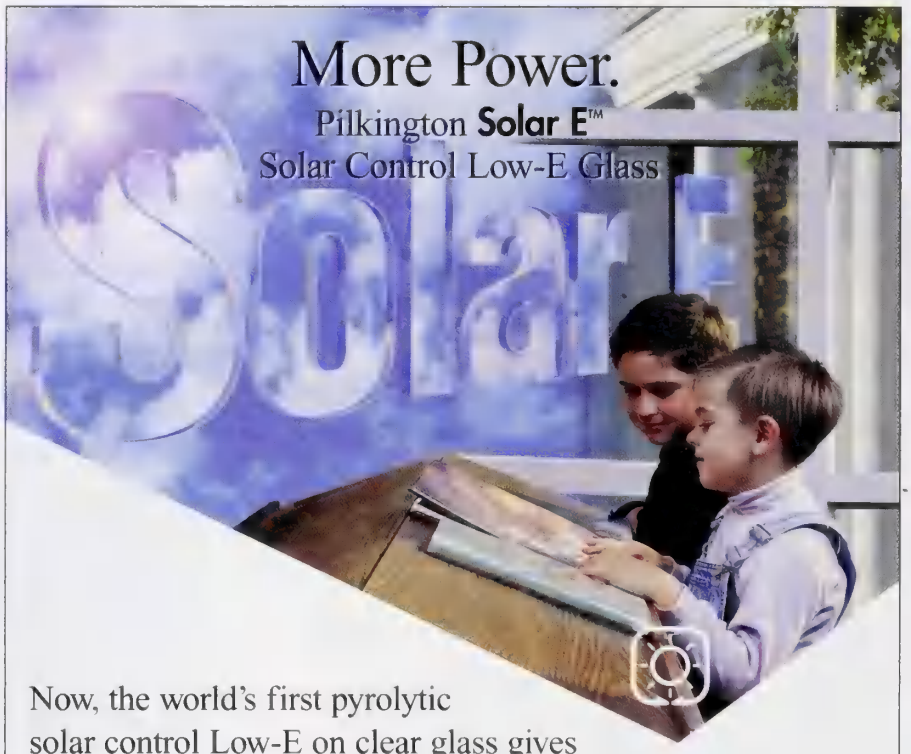


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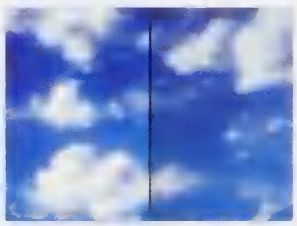
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CIRCLE 42 ON INQUIRY CARD

Tech Briefs

A simple, thoughtful design provides comfort and shelter for those in need

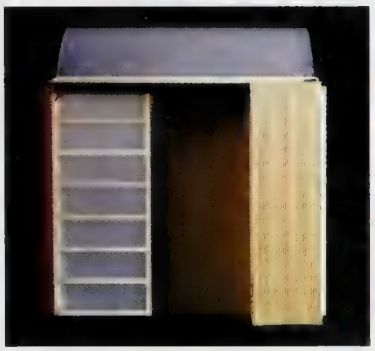
Constructed of modest materials, the 52-square-foot shelter prototype for homeless adults in New York's legendary Bowery hardly resembles Mies van der Rohe's 1929 Barcelona Pavilion. And yet the designers were inspired by the pavilion's elegant simplicity, and they borrowed several elements, most significantly the cruciform column and freestanding wall. Called First Step Housing, the shelter is sponsored by Common Ground, a nonprofit housing and job-training agency. It was designed by New York architects Gans & Jelacic and Marguerite McGoldric.

Manhattan's Bowery is still home to flophouses where, for a few dollars a night, people rent cubicles big enough for a bed and some belongings, with chicken wire for a ceiling and a lock on the door. Laid out in rows on large open floors, the cubicles are spare, private, and affordable. First Step Housing is an experiment to improve the quality of these spaces without sacrificing affordability. The form is simple, the structure uncomplicated, the variations unlimited. A post and beam are all that is needed to carry the loads. One module is, after all, only 6 feet, 6 inches by 8 feet by 8 feet high. A single aluminum extrusion is used for both column and beam, cruciform-shaped (¼ inch by 5¼ inches) and sized to carry a 300-pound load.

The cruciform was selected, not to imitate Mies, but so that wall panels could be bolted and furniture and doors could be hung from the flanges in any position. At this scale, aluminum is equal in strength to steel, but substantially less expensive, faster to fabricate, and able to be cut and drilled in the field.

For the prototype, the wall is plastic-laminated plywood drilled and bolted to the flanges. This system provides all the horizontal strength needed, but a continuous aluminum extrusion, resembling a chair rail, carries built-in furniture, such as a plywood desk. On the entrance side, a plywood storage closet extends outside the frame. This provides a place for the door lock and a modicum of privacy and protection at the entrance.

A sliding door hung from the exterior flange locks when the



occupant is away and can be replaced with a translucent Kalwall door hung on the interior flange when the occupant is home. Alternatively, for less privacy and more ventilation, the perforated closet door, also hung from the interior flange, slides over the entrance opening. Sliding doors require no framing and meet requirements for handicap accessibility.

The final prototype roof employs the same perforated metal used for the closet door, which can be bent and simply laid in against the flanges of the aluminum beam. Secure enough for this application, the perforated metal allows air and water from the sprinklers to penetrate the space, and expands the perception of space and scale. Electrical service is run along the top beam and surface-mounted to the walls.





Exterior of unit (above) showing entrance door and closet; exterior corner detail (left) of cruciform extrusion and panels; preliminary model of shelter (far left).

Although the prototype was designed for a specific population and place, the architects considered its adaptability for other uses, including emergency and refugee housing. The modular units can be assembled side-to-side and back-to-back to make double, triple, or quadruple units. The whole system is manufactured and shipped flat as a kit. The columns and panels can be cut and predrilled, and shipped with the hardware, doors, etc. A pair of attached units can be put up or taken down by two people in half a day, but fabrication depends on the circumstances and the materials that are available locally.

The cost is $5,465 for two units and another $1,155 for the furnishings. The cost doesn't include the initial $875 "fitting up" charge for the cruciform die. And the cost of the aluminum post and beams ($630 for the two units) is based on a run of 1,000 pounds of aluminum (an 8-foot length weighs about 25 pounds). The per unit cost of the aluminum goes down as the run increases.

This project has ramifications beyond the Bowery. USAID, the principal U.S. government agency extending assistance to countries in need, is currently reviewing the First Step plans and documentation. "Having been one of the selected projects in a competition for Kosovo disaster housing," says Deborah Gans, "we were conscious throughout the design of similar programmatic needs between the two applications." It was for USAID that the architects upgraded the materials and construction process. With speed and simplicity of fabrication, this prototype will translate well to the needs of disaster relief. *Barbara Knecht*



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CIRCLE 43 ON INQUIRY CARD

Digital Architect

CAD pioneer reflects on the past and the future

Jerry Laiserin, FAIA

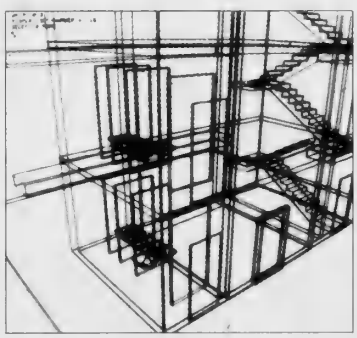
In the words of Charles M. Eastman:

A building can be conceived . . . as a collection of three-dimensional elements arranged in space. Elements might include 2 x 4s, reinforcing bars, precast panels or a room. . . . Designing would consist of interactively defining elements, according to their shape and other properties, and arranging them . . . A given arrangement would allow a wide variety of perspective views. . . . It should be possible, then, to derive sections, plans, isometrics, or perspectives from the same description of elements. . . . Approached this way, the range of drawings available would be infinite. . . . Any change of arrangement would have to be made only once for all future drawings to be updated. All drawings derived from the same arrangement of elements would automatically be consistent. . . . Any type of quantitative analysis could be coupled directly to the description. . . . Cost-estimating or material quantities could be easily generated. . . . Sketch solutions will be entered directly to the computer . . . providing a single integrated database for visual and quantitative analyses, for testing spatial conflicts and for drafting. . . . Parts catalogs will have to be built up . . . automating the interface between a design representation and what is now Sweets' catalogs. . . . One can conceive of . . . automated building code checking in city hall or the architect's office. Contractors of large projects may find this representation advantageous for scheduling and materials ordering.

These words may seem to have been ripped from a hyperbolic business plan for the latest parametric, interactive, streaming e-commerce baby. Actually, the excerpts come from the stolid and straitlaced *AIA Journal* of March 1975, describing a system that was operational at Carnegie-Mellon University since the previous year under the direction of Prof. Charles M. Eastman.

Educated at UC/Berkeley in the mid-1960s, Chuck Eastman began his pioneering career as a teaching assistant for Christopher Alexander, an English mathematician whose doctoral thesis at Harvard had been published as *Notes on the Synthesis of Form* (excerpted in RECORD, April 1965). This experience piqued Eastman's interest in design decision making, which became the subject of his masters' thesis. While lecturing on protocol studies in design at the University of Wisconsin, Eastman attracted the interest of researchers in cognitive processes and artificial intelligence at Carnegie-Mellon University (CMU), where he stayed on for 15 years after joining the CMU faculty in 1967. Eastman's students from this period have had a major impact on architectural design software, education, and practice. The roster includes: Yehuda Kalay, currently a professor at Berkeley; Doug Stoker, who was one of the SOM technology innovators responsible for programs such as the AES CAD system; and Chris Yessios, Eastman's first Ph.D. student, who taught several more generations of students at Ohio State and who also founded auto*des*sys, maker of the popular form*Z modeling software.

Eastman took leave from CMU in 1982 to start FormTek, an AEC CAD company that he sold to aerospace giant Lockheed-Martin in 1987. He then taught and conducted research at UCLA for eight years, and in 1995 moved to the Georgia Institute of Technology, where he heads the Ph.D. program in the College of Architecture, as well as Ph.D. studies in Design Computing; in addition, he holds a joint appointment as professor in the Colleges of Architecture and Computer Science. He remains at the leading edge of research in design data management, serves on the technical advisory committee of the International Alliance for Interoperability (IAI, "Digital Architect," OCTOBER 2000, page 185), and has recently published an authoritative volume on building product models.



A computer image from one of the Chuck Eastman's earliest 3-D modeling programs (1976), including building shell, fixtures, and ducting.

Jerry Laiserin: Are you pleased that concepts you pioneered 25 years ago are now becoming commercial realities?

Charles Eastman: I'm surprised it's taken 25 years to achieve the virtual building. I think the obstacles were psychological issues. Architects claim to work in 3-D, but they really produce in 2-D. There were plenty of systems in existence by the late '70s, especially work in England such as GDS and RUCAPS. These were fully 3-D, with objects, but they did not integrate with the practices in offices at that time. Therefore, electronic drafting is what sold. There was and is a whole infrastructure built around drafting: legal issues; codes and permits; the savings and loan/banking industries; the building-products manufacturers. We didn't realize the power of the cultural inertia in these industries.

Now, this second attempt is more interesting. In part it is motivated by the CAD vendors, who need expanding markets, so they are investing the money in educating the profession about modeling, getting the contractors on board, seeding the schools. Web access opens new opportunities to connect information across different formats and platforms. And architects like Frank Gehry and Greg Lynn are leading the way in blob architecture, which requires modeling rather than drafting.

JL: It sounds like you are optimistic

Contributing editor Jerry Laiserin, FAIA, provides strategic consulting services to architects and their technology providers.

For more information on technology for architects, including reviews, vendor lists, and links, go to Digital Architect at **www.architecturalrecord.com**

about this second attempt.

CE: There is another chance to link 3-D with property information for things such as energy and costing. However, there will never be a single building model with all the data for all the disciplines. Even if you could do it, you wouldn't want to. For example, I'm working with AISC [the American Institute for Steel Construction] on a system called CIS2, which handles design, analysis, fabrication—the full structural life cycle. It has links to all the structural software vendors. But what the vendors and users want is to take out some part of the data from a building model, edit it, and then check it back in. When organizations look at the management and distribution of data, file-based systems with layers and the like may work at the contractor level where you want to buy things, but not at the design level where you want to be able to change things.

We need design data management down to the object level—much finer control than files and layers. This raises liability issues regarding ownership of data. Not ownership in the contractual, property sense, but in computer terms. Ownership of bits means who has the right to change them. This applies to software objects and to objects on the Web. If I can change the bits, I can change the design.

JL: So, the ability to share building models and to assign different software ownership rights over different bits within the model to different project team members will finally lead to acceptance of these model-based approaches?

CE: Doing costing and product information in Web commerce is going to require model-based exchange. XML [the eXtensible Markup Language for describing data on the Web] is good for standard products, but how do you use it for engineered products, custom stuff? We need models because models have geometry but XML does not. Model-based data exchange is an enabling technology. There is a much bigger increment to be gained than just sharing CAD formats. Model-based exchange will change the workflow and shorten the cycle times within the industry. Things like design, bidding, procurement, and fabrication now happen in sequence. But model-based exchange could produce new overlaps, with tremendous compression in time. The potential savings in cost and time are radical.

JL: Won't the same cultural inertia interfere now as it has for the last 25 years?

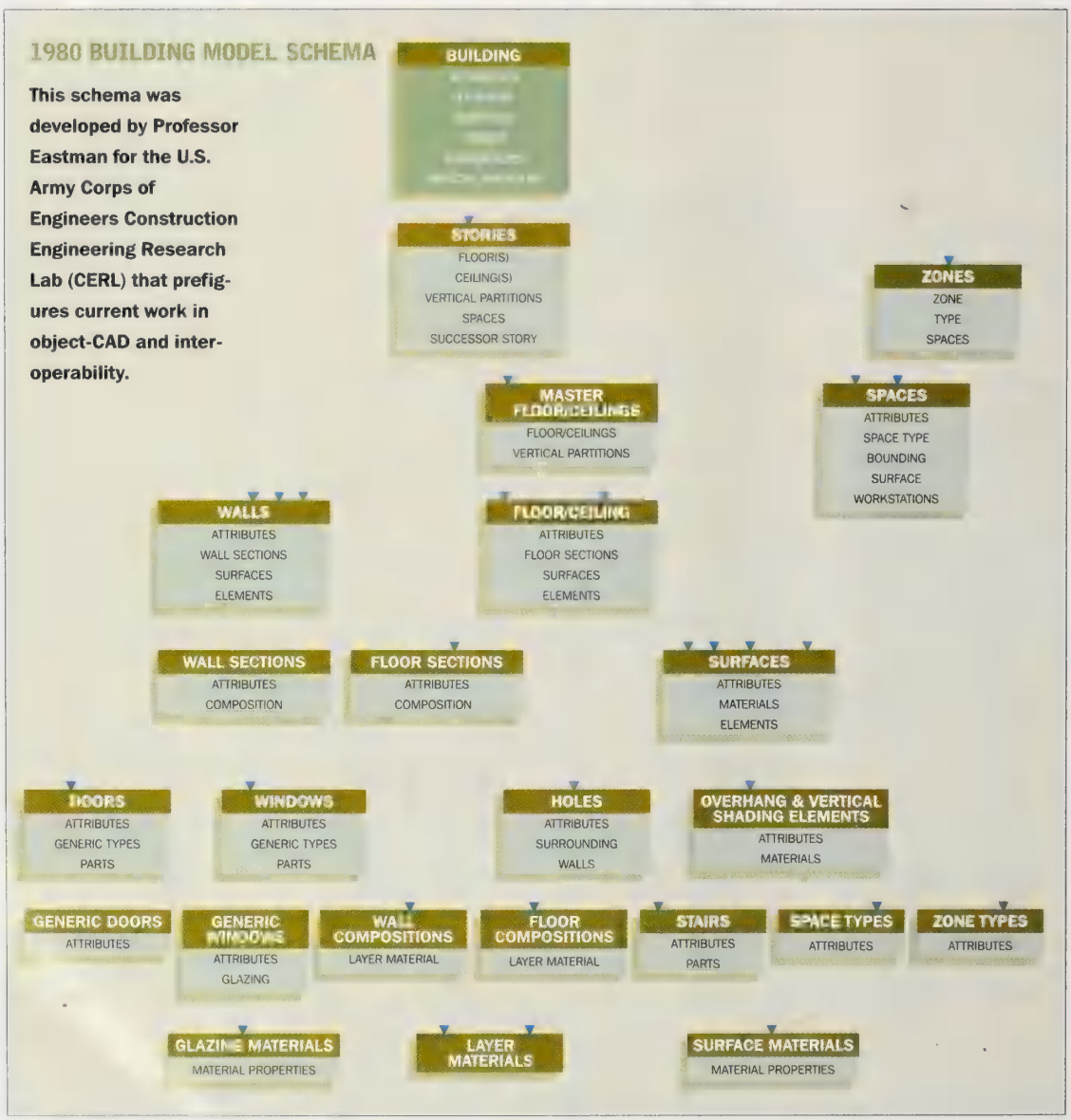
CE: To get there, people will need to feel really confident in the systems and the infrastructure. At the construction level, the industry level, and the educational level, I see the tools and infrastructure coming into place. Buildings are becoming a more industrialized product, made up of more standardized components. We're seeing the possibility for new coalitions and restructurings that change the traditional role of the architect more toward total services, especially in areas such as design-build. The last frontier really is education, where architectural pedagogy is experiencing interesting times.

JL: That sounds like the Chinese curse, "May you live in interesting times."

CE: Well, the schools have just had the transition from paper-based to computer-based design pedagogy, and now they have to move quickly to 3-D modeling. We need to understand the relationship of built form and construction drawings [through the model], but the curricular issues have not been resolved. To learn 3-D form, we used to use drawing, shadow studies, and so forth, with lots of hand-eye motor skills. Now there are new ways to learn form, but these computer methods have not been fully worked through.

JL: You imply that it will take another generation of teachers and students to work this out.

CE: I think the prospects of the 1970s will at last come to fruition in the next 10 to 15 years. ■



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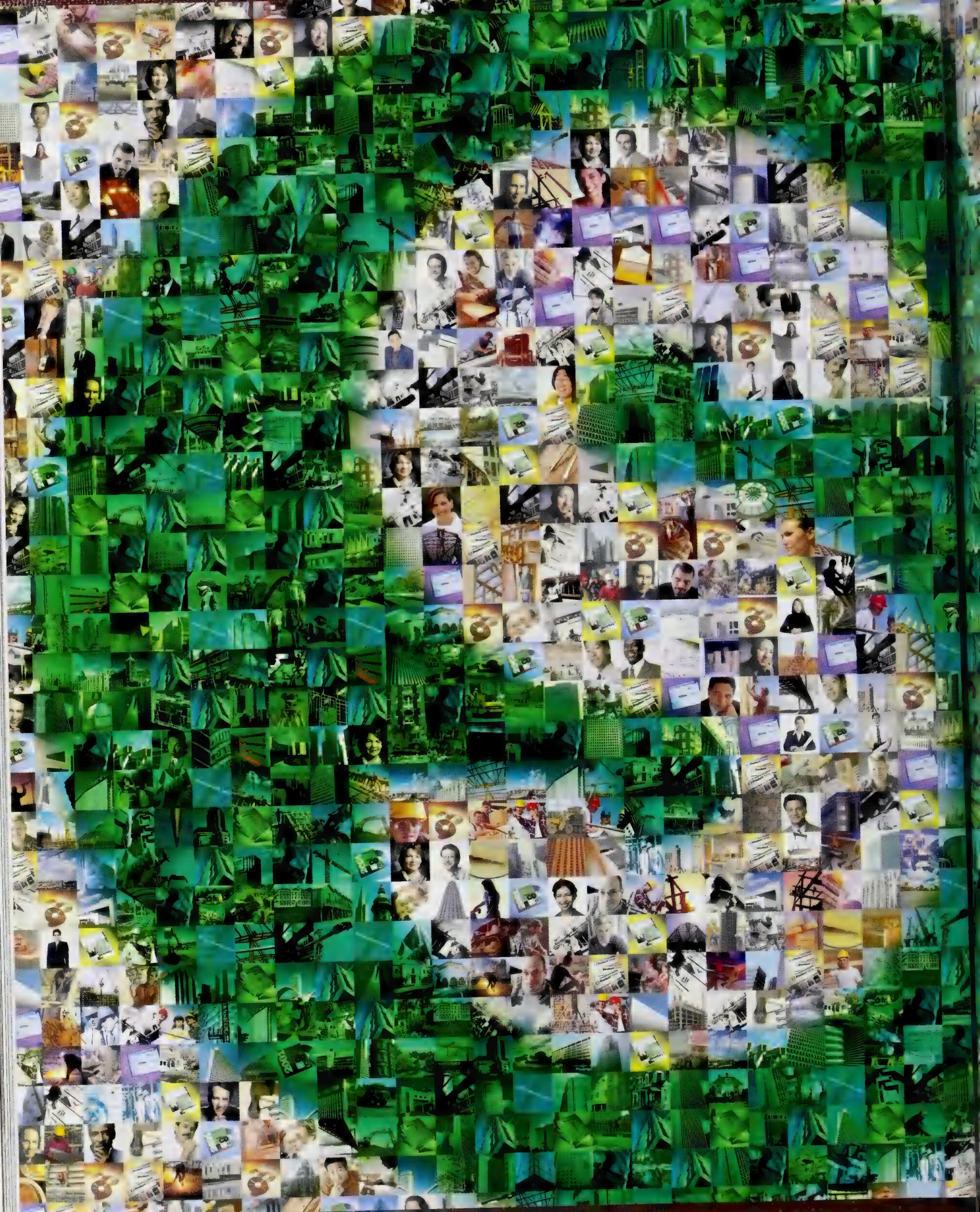
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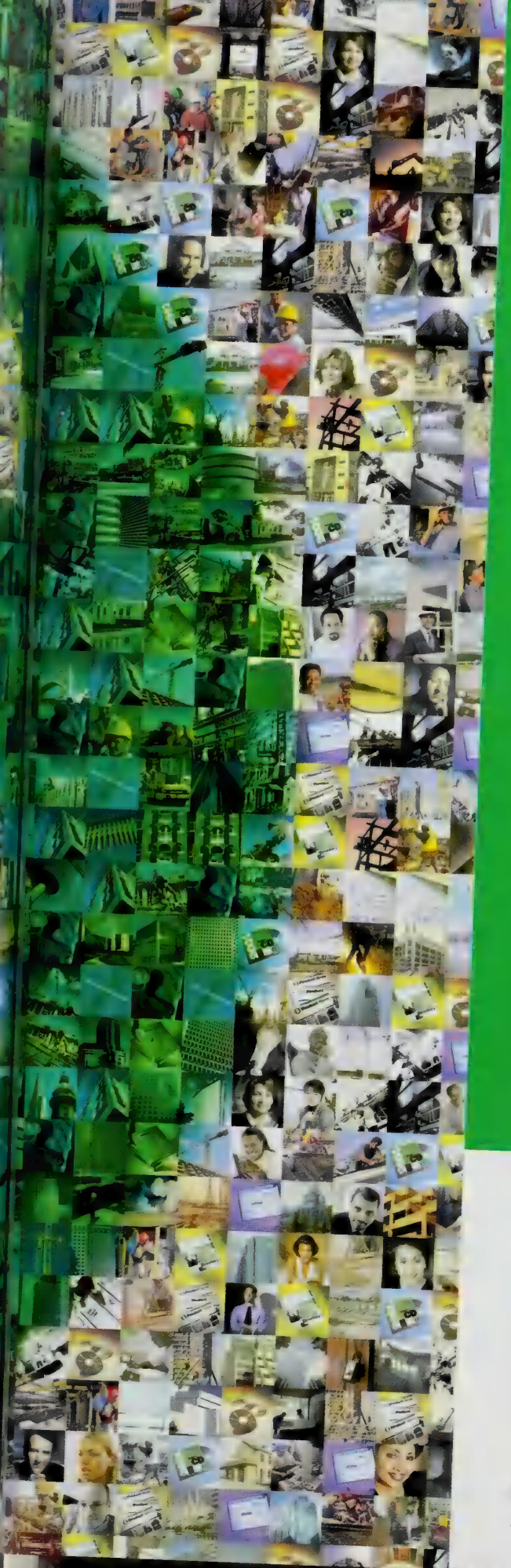


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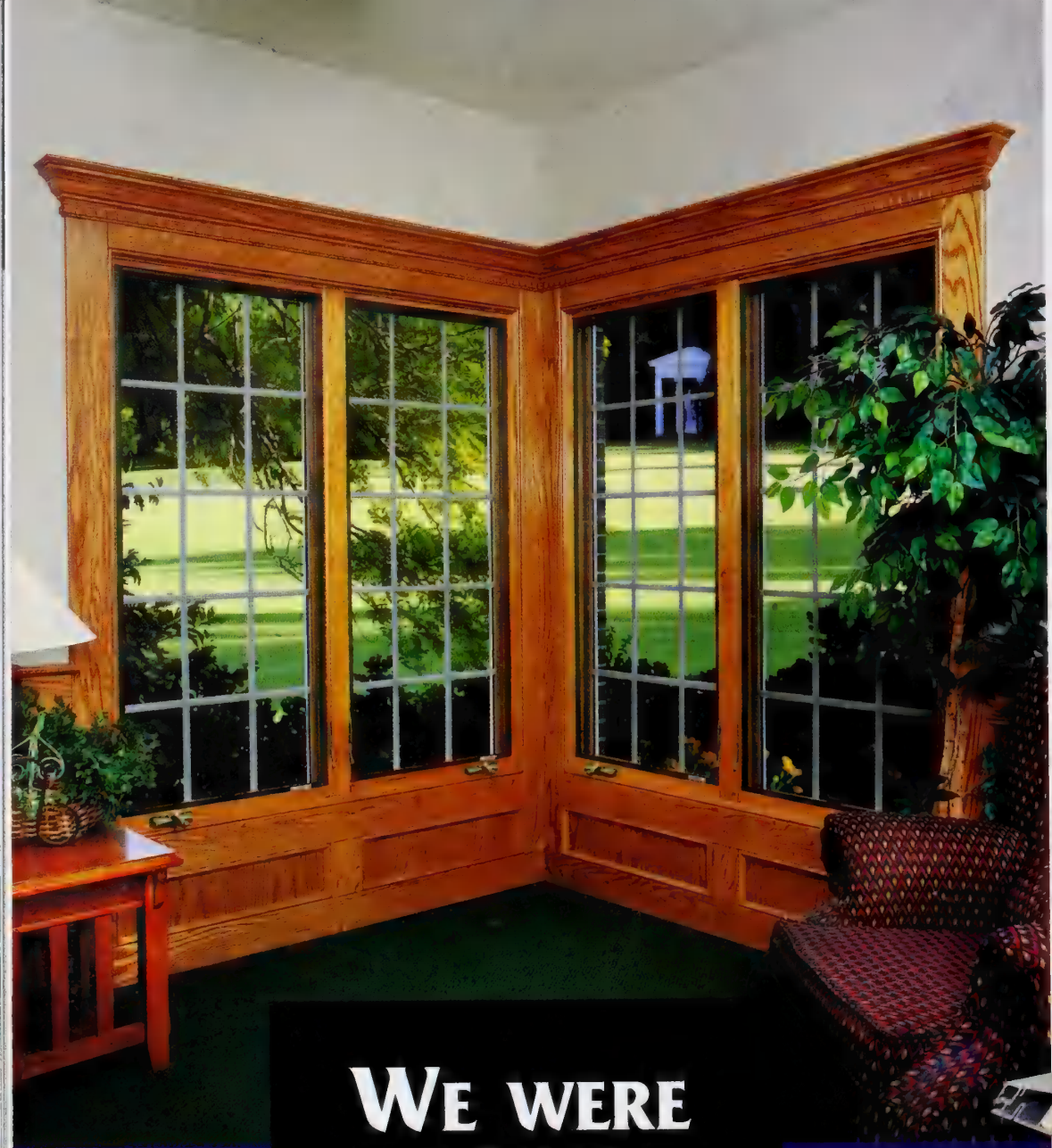
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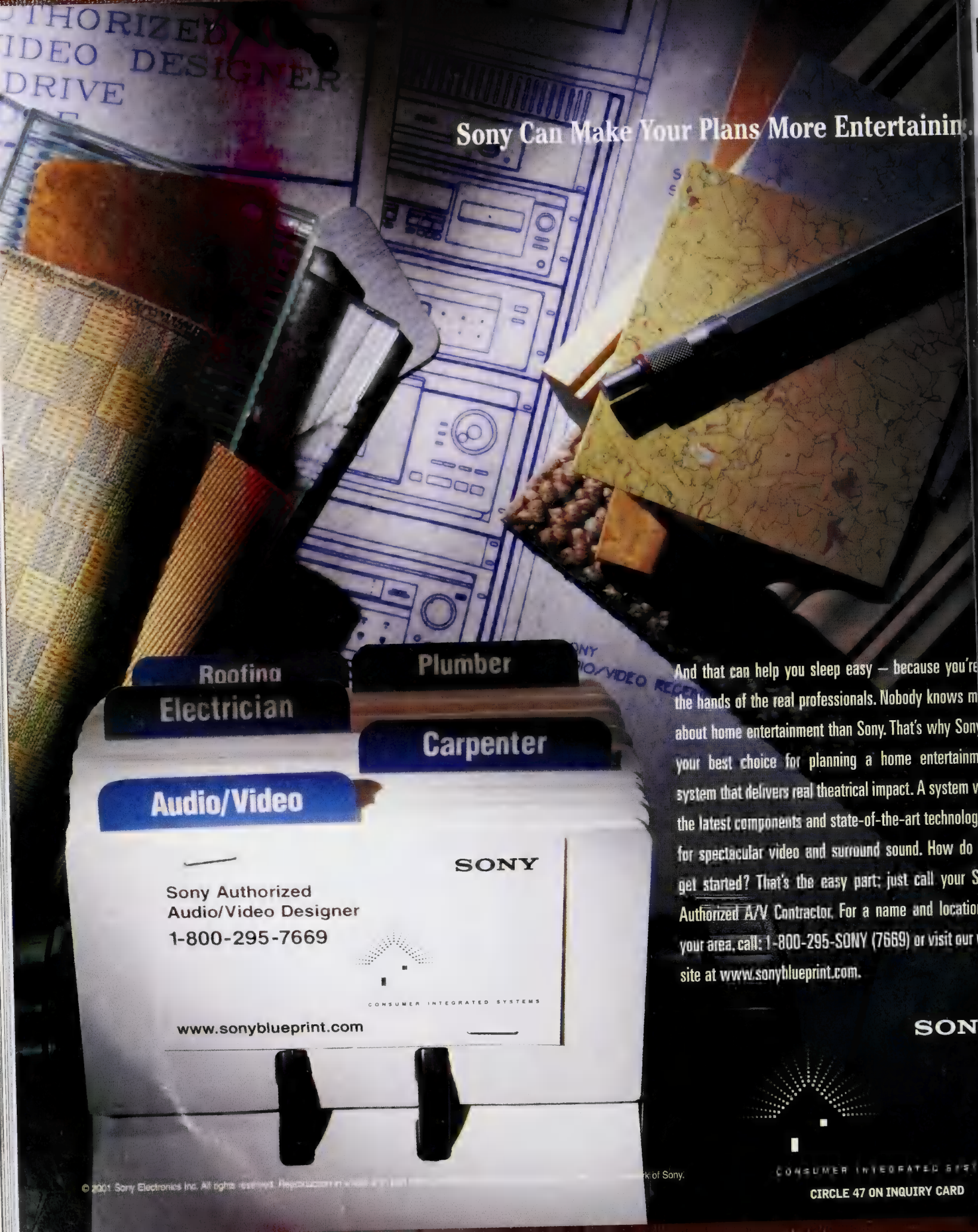
Ah, the joys of city life: honking taxis, the smell of garbage, crowded mass transportation, and constant noise.

Still, many of us have the city in our blood. An estimated one in seven Americans can trace their lineage back to one city: Brooklyn. And for others, the lures of city life are simply undeniable; great restaurants, diverse neighborhoods, and world-class cultural institutions are beckoning those who once rejected urban centers for the relative peace of suburban life.

Just as living in the city has its challenges, so too does making great architecture in an urban context. Rarely are the conditions ideal. In designing an apartment in New York City's Greenwich Village, Rogers Marvel Architects had to combat low ceilings and awkwardly placed structural columns and yet still managed to exploit the stunning views that surround this aerie. In San Francisco, where the go-go high-tech economy has made many a young entrepreneur rich and caused housing prices to skyrocket, Pfau Architecture created a modern take on the industrial loft building, designing a new building that plays nice with its disparate neighbors. And finally in Amsterdam, between highly ornamented 18th- and 19th-century buildings, Tijmen Ploeg shoehorned a spare residential project into a lot five times as long as it is wide.

All of the architects, and their clients, opted for the cleanest possible palettes. Perhaps a calm, quiet home is the perfect antidote to frenetic city life.
Elizabeth Harrison Kubany

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CIRCLE 47 ON INQUIRY CARD

Residential Briefs



Just what Manhattan needs: Another billboard-sized apartment

It sounds like every New Yorker's dream. Imagine opening the *New York Times*' Real Estate section and finding the following ad: "Loftlike NoHo studio. Excellent location at corner of Lafayette and Bond Streets. Sunny, airy, clean, fully furnished with the latest Ikea designs, new appliances, terrace with a terrific downtown view. No broker's fee. Rent negotiable."

Working with IKEA, the Swedish home-furnishings company, Absolut Vodka has created "Absolut New York," a billboard cum life-size studio apartment. Located at the corner of Lafayette and Bond Streets in New York City, the 19-foot-high, 49-foot-long space (larger than some New York City apartments) is completely furnished with genuine, full-sized Ikea furniture designed for the kitchen, living room, bedroom, and bathroom.

The "apartment" is fully detailed. It is completely wired, boasting a working television and computer as well as a stove, refrigerator, and bathtub. No detail was overlooked; from dishes, glassware, and bowls on the kitchen table to throw pillows on the couch to old newspapers, books, and magazines found on the coffee table, the apartment would actually be completely livable if only it weren't fastened to a billboard! It even has leftover Chinese take-out cartons, a staple of many New Yorkers' diets.

The two Swedish companies created this outdoor spectacle to bring some levity, fun, and wit to a topic that's often sensitive and stressful for many New York City residents. Jim Schleifer, marketing director for Absolut Vodka, says, "We were trying to connect with New Yorkers in a way that shows that the brand truly understands the unique experience of living in Manhattan."

Although "Absolut New York" may look better than many New York City apartments, don't break your current lease yet. Like most other Manhattan apartments, this one is simply not available. And even it were, you probably couldn't afford it. *EHK*

A developer returns to his urban roots

Think Atlanta and you probably think of urban sprawl. In his book *S,M,L,XL* Rem Koolhaas says, "Atlanta does not have the classical symptoms of city; it's not dense; it is a sparse, thin carpet of habitation, a kind of suprematist composition of little fields." In 1996, as part of a special report entitled "Gridshock: Atlanta's Trouble with Traffic," the *Atlanta Constitution* reported that "Atlanta is probably the fastest-growing of any metropolitan area in the history of the world" and estimated that "the area has grown from 65 miles north to south to 110 miles since 1990." Furthermore, from 1986 to 1996, "metro Atlanta's population grew by 32 percent while land consumed by development grew at nearly twice that rate and the daily mileage driven by vehicles soared by 65 percent."

As Atlanta's biggest apartment developer, John A. Williams helped create this untenable situation. Throughout the 1970s and 1980s, he and his company, Post Properties, turned thousands of acres of suburban forest into vast expanses of garden apartments. Since he began building garden apartments around Atlanta in 1971, his empire has grown to include 35,000 apartment homes in over 100 communities.



Riverside by Post in Atlanta

Today, Mr. Williams has become one of the nation's leading champions of renewed urbanism and smart growth. Even his company's press kit suggests this change of heart. A description of Post Properties reads, "While recognized as a pioneer in branding resortlike suburban apartment communities, Post has ventured aggressively over the last decade into the creation of high-density, mixed-use neighborhoods in urban and infill settings."

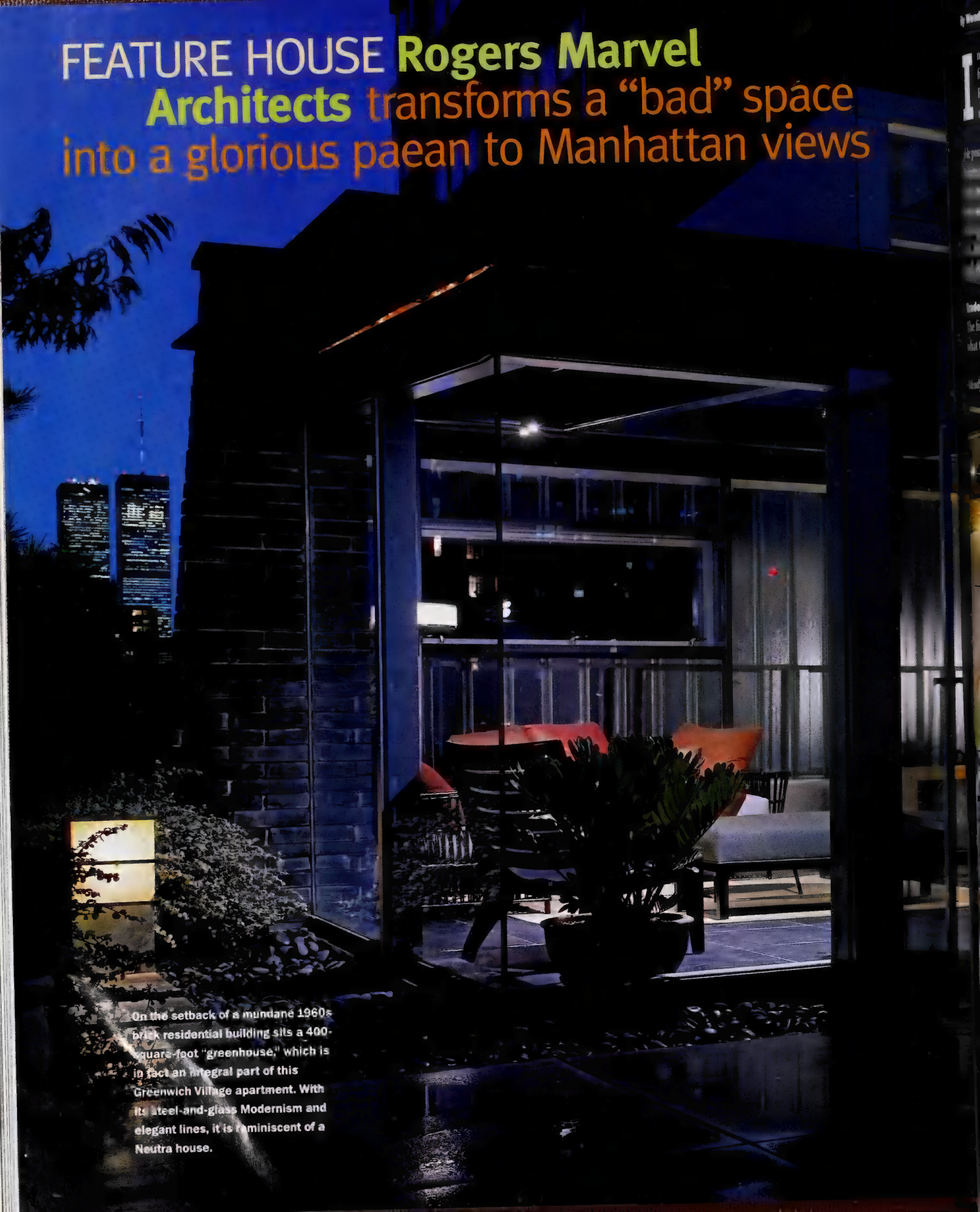
Denouncing the suburbs as eyesores and breeding grounds for neurotic youth, he has built projects in recent years that have added apartments, often with stores and offices, to older, urban neighborhoods. He hired Miami-based Duany Plater-Zyberk—the architects who essentially invented new urbanism—to design Riverside, the first neo-traditional, mixed-use community in Atlanta. This project has received substantial attention as a template for anti-sprawl development.



Parkside by Post, also in Atlanta

For Williams, who grew up in southwest Atlanta, this is a round-trip. "We are trying to build neighborhoods that remind us of where we grew up," he says. *EHK*

FEATURE HOUSE Rogers Marvel Architects transforms a "bad" space into a glorious paean to Manhattan views



On the setback of a mundane 1960s brick residential building sits a 400-square-foot "greenhouse," which is in fact an integral part of this Greenwich Village apartment. With its steel-and-glass Modernism and elegant lines, it is reminiscent of a Neutra house.

By Wendy Moonan

In New York City's currently overheated real-estate market, architects are constantly confronted with the same dilemma. Lacking alternatives, "good" clients purchase "bad" spaces. Fortunately, since its founding in Manhattan in 1991, Rogers Marvel Architects has built a reputation for creative problem solving.

Having completed two projects for one particular couple, the architects were in the enviable position of knowing, and liking, their clients. "They have very good taste and are conceptually literate about architecture," principal Robert Rogers says. In 1998 the couple bought a 2,200-square-foot Greenwich Village apartment—actually two adjoining one-bedroom apartments—on the 14th floor of a nondescript 1960s glazed buff-brick high-rise. It had a 1,400-square-foot terrace and a 400-square-foot greenhouse that were "too good to pass up," in the words of project architect Vince Lee, but the apartment was "a mess, a warren of tiny rooms," Lee recalls. "There was no column grid. And the ceilings were 8' 2"."

Trade it all for the view

The firm embraced the challenge. "We don't want to ignore what's in the city," Rogers says. "We take what the city gives, like low ceilings and odd columns, and find out what's great." In this case, what

Wendy Moonan is the architecture editor of House & Garden *and a frequent contributor to* RECORD.



was great were the terraces and stunning views of the World Trade Center to the south and the Empire State Building to the north.

The clients' brief was straightforward. The husband, an Austrian banker, and his wife, an American Internet executive, envisaged an open-plan, one-bedroom apartment with a dining area, guest room, and home office/library that could double as a second guest room. They also needed a good, open kitchen because they entertain frequently.

An intellectual approach

At the outset, Rogers devised an intellectual conceit. He organized the spaces along two axes, each offering unobstructed views through the apartment (after the apartment was gutted and most of the doors removed). "There was no vertical axis possible with 8′2″ ceilings," Rogers says. "The crossing axes were derived from the forced horizontality of the project." The north-south axis runs 100 feet from the terrace to the north

"We take what the city gives, like low ceilings and odd columns, and find what's great [about a space]," says Rogers.

through the master bedroom to the south. The east-west axis begins at the foyer, moves through the living room, up a step, and out to the greenhouse. Each axis is marked with a thin aluminum strip set into the beech floor. This subtle strip ends, in all four directions, with a lit object. "We used lanterns as markers," Rogers says, "the lanterns mirror the axes. They are powerful sculptures that confound the weakness of the apartment. By stretching out the horizontal lines, we turned the low ceilings into an asset. Now the horizontality works."

The axes cross at the threshold of the living room. "The scheme pinwheels from this point," Lee says. The dining area, office, and kitchen flow to the north; the living room, with two seating areas, and the greenhouse are directly to the east; bedrooms and baths are off to the south. "It's like a house. You can move through the public spaces without retracing your steps," Rogers says. "Because of the variety, your interest is always changing."

Project: *Greenwich Village residence*
Owner: *Name withheld on request*
Architect: *Rogers Marvel Architects—Robert Rogers, Jonathan Marvel, principals; Vincent Lee, project architect; Timo Lindman, project team*
Engineers: *Robert Silman Associates*
Consultant: *Dirtworks (landscape), Arc Light Design (lighting)*
General contractor: *Taocon*





PHOTOGRAPHY: © PAUL WARCHOL

A beach house in Manhattan

By removing walls, the architects flooded the apartment with light. There are views of the sky in every direction. You can also see the terraces from the public rooms. As one of the clients says, "It's like a beach house." That sense is enhanced by the quiet palette: white plaster, gray metal, beige paper lanterns, blond and dark wood. Rogers says, "Here, we wanted to concentrate our energies on the light. There's no strong color in the finishes." Rogers specified the "straightforward" materials he prefers: stainless steel, aluminum, untinted imperial plaster, wood, glass, and raw concrete.

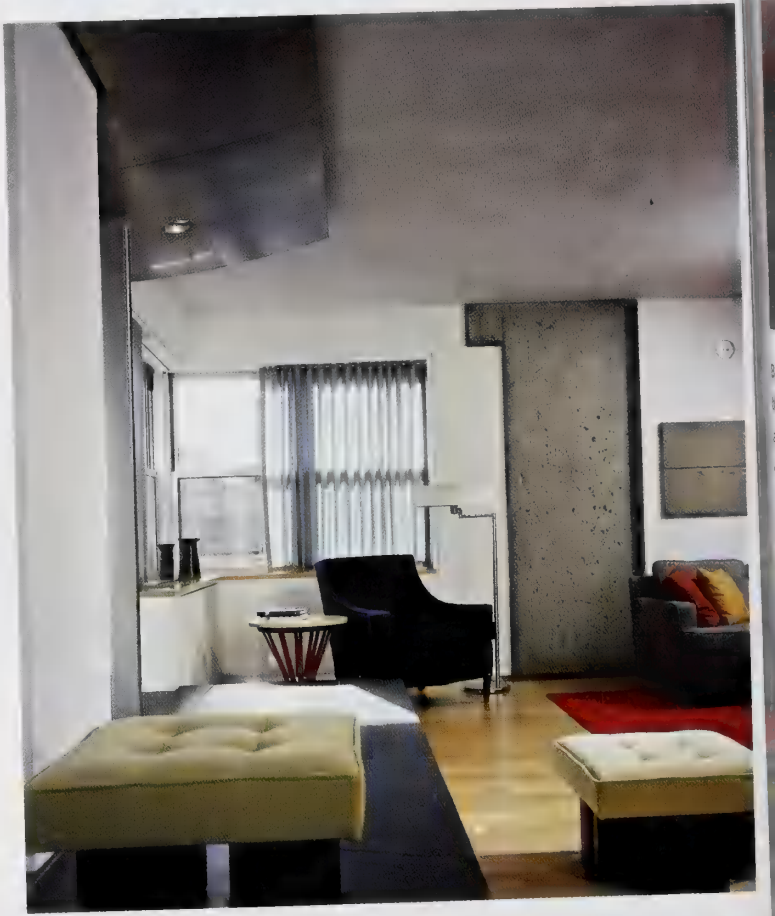
The details, however, were done with great finesse, and some of the materials were outright luxurious. Glovelike leather, for example, covers the cabinet doors on one living-room wall. And while the bathrooms have unglazed tiles and concrete, the medicine cabinets and mirrors are all backlit with custom sandblasted glass. In addition, much of the furniture was custom-designed by the architects.

To solve the apartment's biggest problems—low ceilings and irregularly spaced columns—Rogers devised two ingenious solutions. To make the ceilings appear taller in the dining area and living room, paradoxically he added dropped white lacquer panels with lights. "I didn't want to give up any ceiling height but I needed light in the ceiling," he says. "The highly polished lacquer planes contrast with the rough concrete of the surrounding ceiling and seem to raise it. The panels also help you organize the ceiling, the way a rug organizes a room." The irregularly spaced columns were sandblasted to reveal their original gray cement cladding. "The columns define the materiality of the apartment," Rogers says. "The roughness of the concrete makes the other materials seem more finished and elegant."



And, finally, the apartment's tour de force: the greenhouse, which has a modern elegance reminiscent of a Neutra house. Permission to rebuild the existing makeshift greenhouse in the landmarked Greenwich Village district was granted because it was a preexisting structure. The new walls and pitched roof are constructed with translucent U-shaped glass channels. Rogers inserted a large dormerlike skylight and windows, including one with a mitered glass corner, within the translucent glazing. The transition space between the living room and greenhouse is marked by swooping aluminum ceiling element.

The apartment's tour de force is the greenhouse, which has a modern elegance reminiscent of a Neutra house.



Are the clients pleased with their "beach house"? Yes indeed. In fact, it has become a problem for the wife. "We are in a wonderful neighborhood," she says, "but my husband is so happy here he never wants to go out." ■

Sources

Plaster: *Beriah Wall*

Custom lanterns: *Wigmore Lighting Design*

Leather on cabinets: *Gaia Flooring*

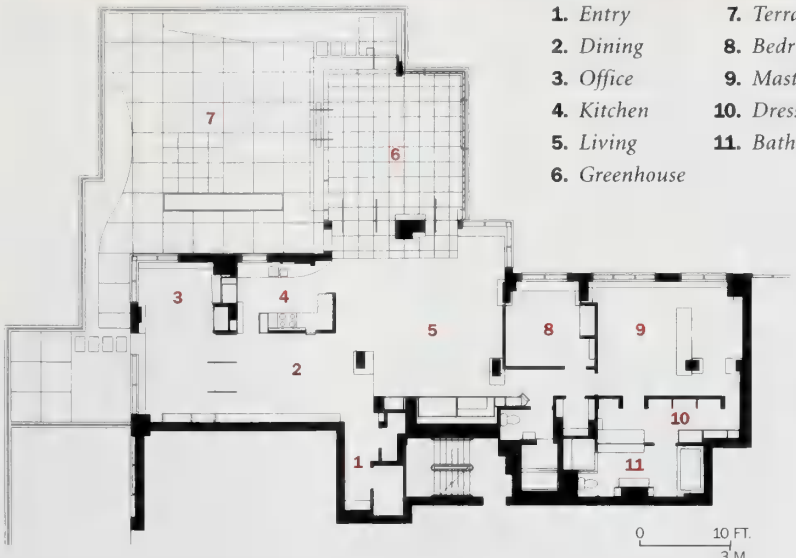
Architectural metalwork: *Studio 40, Demogod, SHAdi & Co.*

Structural glass: *Reglit Profiled Glass Architecture*

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By removing as many walls as possible, the architects gave the apartment an open plan (above) and created vistas that carry the eye out to the views. Ebony rectangles at the bases of the irregularly shaped columns square them to the rest of the apartment (above left). Humble materials and a quiet palette appear throughout the apartment; custom-designed furniture adds a touch of luxury (left).



FLOOR PLAN

1. *Entry*
2. *Dining*
3. *Office*
4. *Kitchen*
5. *Living*
6. *Greenhouse*
7. *Terrace*
8. *Bedroom*
9. *Master bedroom*
10. *Dressing*
11. *Bathroom*

Pfau Architecture does a modern take on loft living, San Francisco style

By Lisa Findley

San Francisco is once again a boom town. This time, instead of gold in the Sierra Nevadas, it's the gold mine of Silicon Valley that is drawing prospectors from all over the world. The influx of people and capital has caused prices to skyrocket, particularly in the real-estate market. The old warehouses south of Market that once provided rough functional space for struggling artists now house newly rich high-tech workers in renovated elegance. These spaces, once legitimately called live/work, are now just voluminous lofts setting a trend in housing development. The high ceilings, open plans, mezzanine bedrooms, and large glass exposures of these former warehouses have become the model for hundreds of new residential units being constructed around the city.

The economy has encouraged several young entrepreneurs to wade into loft-housing development for the first time. One of these newcomers, Ulrich Schmid-Maybach, did not know how lucky he was to have hired Pfau Architecture to design his first foray into this relatively new market. Dedicated from the start to a "design premium" for his project, he interviewed 12 architects and hired Peter Pfau, AIA, based on his firm's experience with loft projects and the "cool" look of their work.

A learning process

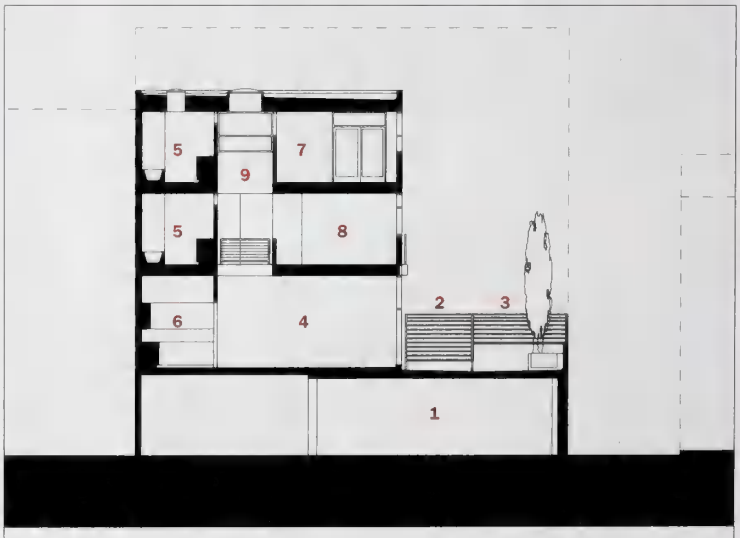
What he did not realize is that Pfau Architecture is known for its experimentation in materials and technologies, as well as its elegant detailing and innovative spatial configurations. Nor did he know how patient Peter Pfau would be. It took two or three rounds of schematic design as Schmid-Maybach learned about the architectural trade-offs necessary to get a developer's pro forma to work. It also took the architects endless negotiating with the lowest-bidding contractor to get the project built the way it was drawn.

To make the project economically feasible, the developer needed a seven-unit condominium project with enclosed parking on the 4,250-square-foot lot. The lot dimensions, 50 by 85 feet, and the configuration of the neighboring building meant that a clever scheme had to be invented to give all units maximum daylight and room to breathe. At the same time, Pfau had to preserve sun access for the side yards of the neighbors to the west.

Contributing editor Lisa Findley lives in Oakland, Calif., and teaches at the California College of Arts and Crafts.

Project: *419 Fulton Street*
Owner: *Four Nineteen Fulton LLC*
Architect: *Pfau Architecture Ltd—Peter Pfau, AIA, principal-in-charge; Casper Mork-Uines, project designer/manager; Mallory Shure, DeWitt Brock, Mike Young, Brooks Dunn, Keri Spiller, project design team.*
Engineers: *GFDS Engineers (structural); MHC Engineers (MEP)*
Consultants: *D. Shawn Blundell (landscape); Nigel Breitz Acoustics (acoustical)*
General contractor: *Gaehwiler Construction*

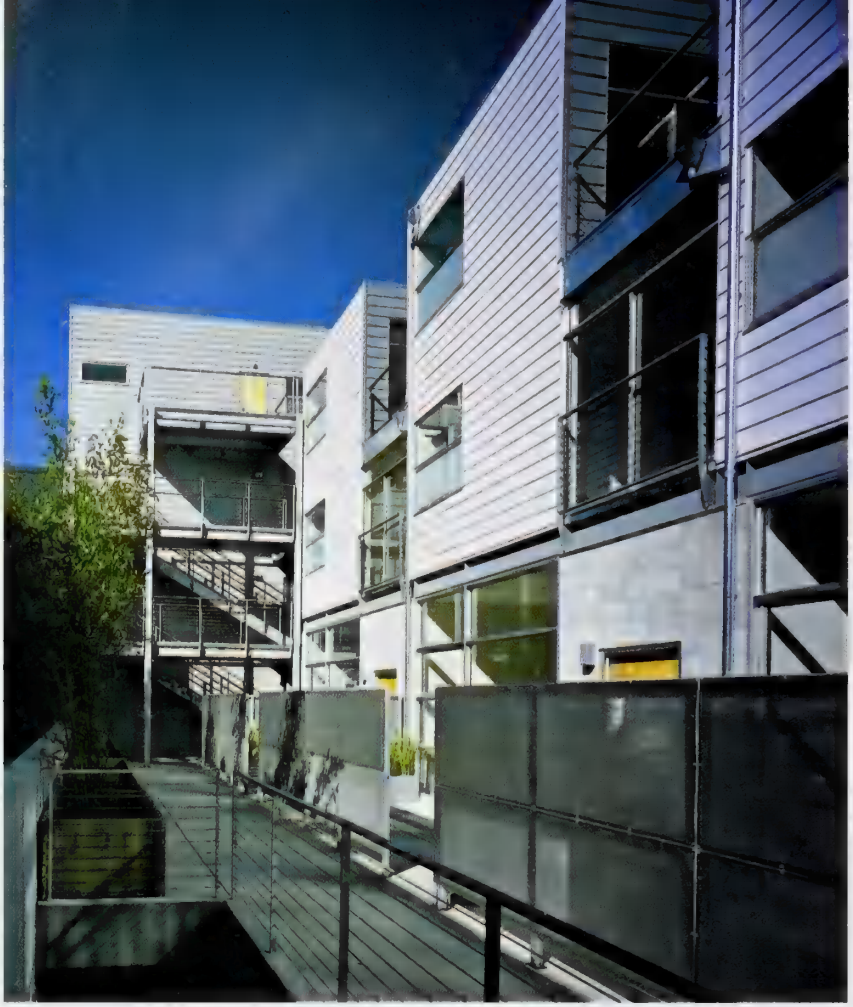




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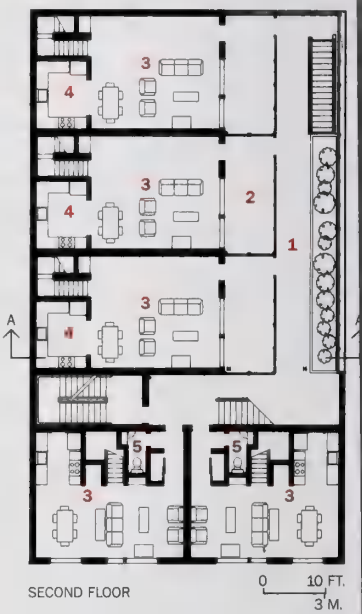
1. *Garage*
2. *Terrace*
3. *Courtyard*
4. *Living/dining*
5. *Bath*
6. *Kitchen*
7. *Bedroom*
8. *Study*
9. *Light well*







1. *Courtyard*
2. *Terrace*
3. *Living/dining*
4. *Kitchen*
5. *Bath*



Light, space, and openness are the luxurious trademarks of loft apartments. In the living areas, the ceiling height is a generous 11 feet, and floor-to-ceiling windows allow light to stream in (above left and below). Inexpensive but well-detailed materials define both the interior and exterior: cementitious siding and concrete block outside and Sheetrock on the inside (above).

Moreover, the site for the project was inherently complex, set on the seam between the gentrifying Hayes Valley neighborhood and the still-tough Western Addition. It is just a few blocks from the gilded dome of the newly renovated City Hall but across the street from a large public-housing project.

To address these challenges, Pfau raised all the units on a podium containing the parking and entry lobby, and at the first level he created a common entry courtyard landscaped with a row of bamboo. The courtyard is accessed either through the lobby or up an open stair from the parking level. By placing the courtyard along the west lot line, the architect maintained sun access for the neighboring side yards. The

San Francisco's go-go economy has spawned a breed of first-time developers.

three 1,350-square-foot, three-bedroom units that line the courtyard are entered through private patios enclosed by perforated metal fences, which provide security while still allowing a sense of openness and neighborliness, while four 1,000-square-foot, two-bedroom units are stacked two-by-two to the front of the site. An open stair leads to the upper units.

Inside the efficiently planned units, Pfau gets the most out of the loft model. All of the units use an open plan for the public areas: a single large room with hardwood floors is meant for both living and dining, and the kitchen opens onto this space. These living rooms all have huge windows that run floor to ceiling, allowing light to spill in. In the larger units, the floor-to-ceiling height of the first floor is a generous eleven feet, and a three-story light well brings sunlight into the heart of the unit from a skylight above. Upstairs, hallways and bedrooms overlook the light well.



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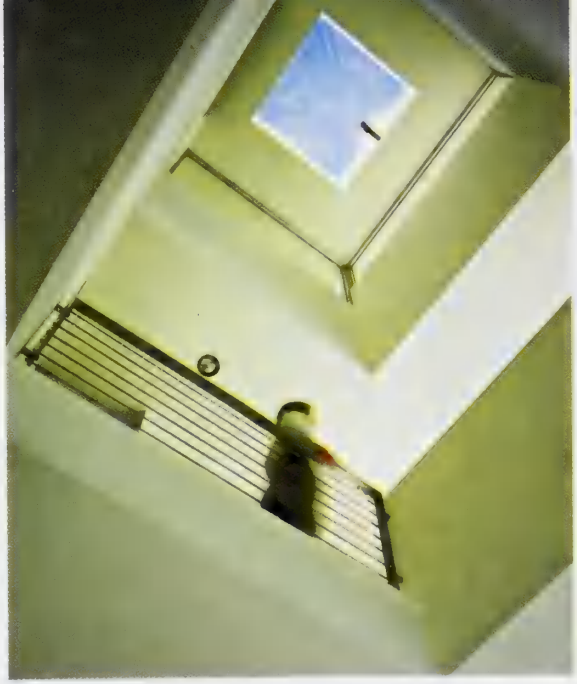
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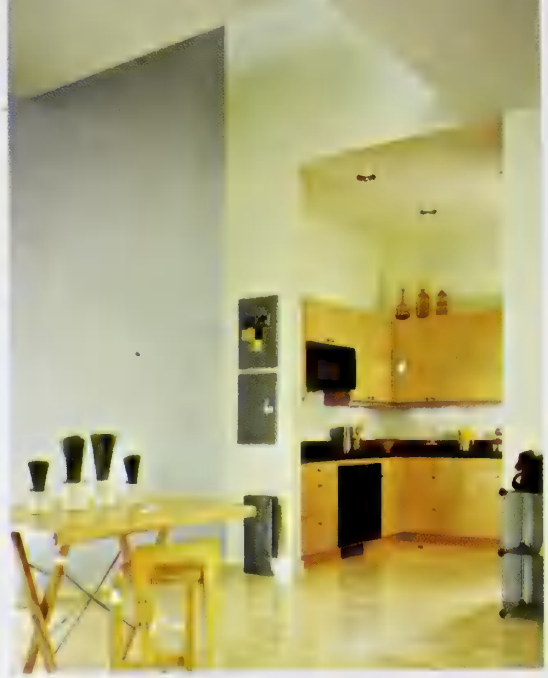
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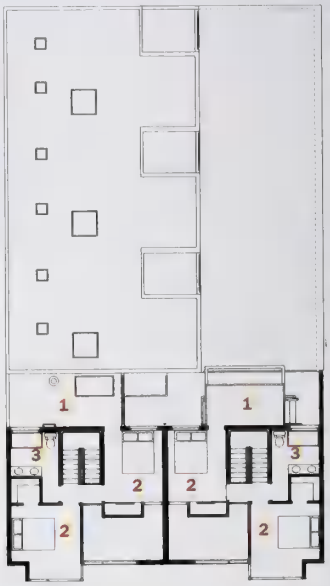




In the smaller units, a large portion of the living room is two stories high, with a mezzanine bedroom overlooking the living room.

In the three-bedroom units, a three-story light well brings sunlight into the heart of the living area through a skylight (above left). The architect splurged on wood cabinetry and stone countertops for the open kitchens (above right). Spare, modern furnishings complement the simple openness of the lofts (below).

1. *Deck*
2. *Bedroom*
3. *Bathroom*



FIFTH FLOOR

A financial strategy

According to principal Peter Pfau, "The strategy throughout the project was to put money into a few well-detailed moments and use standard, off-the-shelf materials for the rest." Exterior materials are predominately concrete block and cementitious siding, and the bay windows on the Fulton Street side that give a nod to San Francisco residential architecture are sheathed in galvanized sheet metal. While the interior finishes are entirely simple sheetrock, the bathrooms have handsome built-in cabinetry and the kitchen counters are stone. The banisters that run up the stairs of the units are standard, but the guardrails that overlook the living spaces and edge the balconies are custom steel and cable. Large, aluminum-framed windows announce that inside are lofts. Along with the custom security gates on the garages and lobby entries, they give the building a sense of care and extra quality often lacking when a developer is involved.

The architects spent money on a few well-designed details; standard, off-the-shelf materials were used for the rest.

The developer is delighted with the result—it was delivered exactly on budget, and all but one of the units rented within only three weeks—and is enthusiastic about doing another loft project. "But next time," he says, "I'll listen to Peter and not hire the lowest bidding contractor." He will, however, definitely be hiring Pfau Architecture. ■



Sources

Metal fabrication: *Holland Ironworks*
Aluminum windows: *Blomberg*
Skylights: *O'Keefe*
Entrance doors: *Blomberg*
Sliding doors: *Blomberg*
Locksets: *Schlage*
Cabinet hardware: *Hafele*
Wood flooring: *Harris Tarkett*
Bathroom tile: *Daltile*
Carpet: *Shaw Industries*
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Downlights: *Nora Lighting*
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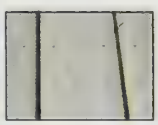
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In Amsterdam, Tijmen **Ploeg** wedges an unabashedly modern house between historic neighbors

By Tracy Metz

The most extraordinary thing about the house that Tijmen Ploeg designed on Amsterdam's Princes Island must be its footprint. It is seven times longer (112 feet) than it is wide (16 feet) and had to be shoehorned into its lot on a narrow street between two existing buildings. This simple but inexorable fact presented two obvious problems for the architect: how to let enough light in and how to avoid the effect of living in a tunnel.

The fact that this house was built for a private client is unusual in Amsterdam, which has a strong tradition of government housing and where there are very few sites for private commissions. In fact, architect Tijmen Ploeg, who himself lives just around the corner, had already designed a building on this spot for a housing society. When the designer and collector Benno Premsela and the architect Friso Broeksma bought the project, he redesigned it to their needs by reducing the number of apartments from five to three, among other things. "I was already involved in the house, but of course they didn't have to take me as their architect. Fortunately, they liked my design, and we worked together very well," says Ploeg.

Friends living together

Premsela and Broeksma wanted a house where they could comfortably grow old in the company of friends. Part of the ground floor is a fully equipped studio for the potter Alexander Lichtveld; the two upper floors

That this was built for a private client is unusual in Amsterdam, where there are very few sites for private commissions.

are inhabited by potter Babs Haenen and music critic Hans Heg, and the two floors in between are the clients' own living and working space. There are shared amenities in the form of a laundry room, a guest or nurse's room, and a roof terrace. All the halls, doorways, and bathrooms are wheelchair-accessible.

Ploeg found a simple solution to the dearth of daylight: he sunk a light well along the white-plastered southern wall all the way down to the glass ceiling of the ground-floor studio, providing the potter with the shadowless light artists need. The light well, made of wired glass in galvanized metal frames, is on the "far" side of the stairwell. As a consequence, though the house is narrow, you don't feel robbed of the space that the light well takes up. The stairs and elevator are slightly skewed to enlarge the light well and to articulate the space.



Keeping some perspective

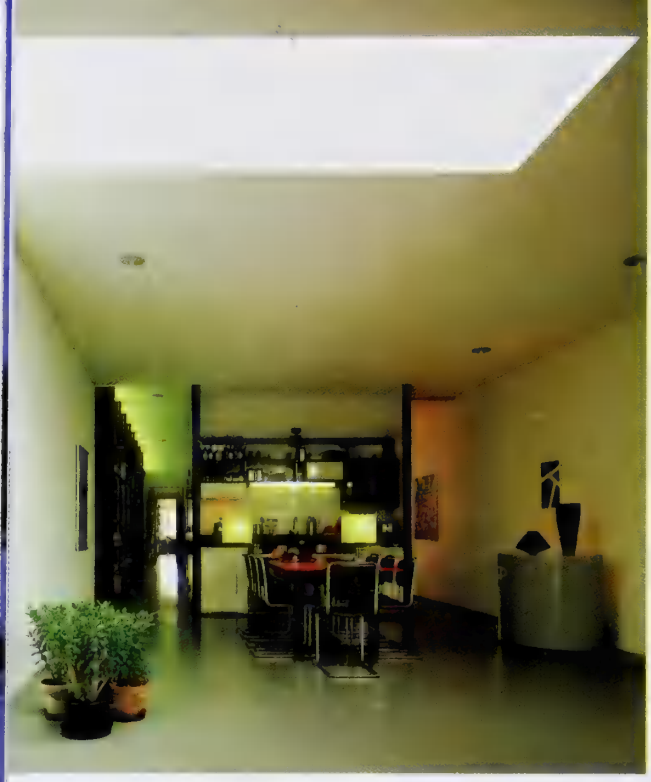
Entering the Premsela-Broeksma house is an experience in itself. Not until construction started did the builders discover that the next-door neighbor had a beautiful old brick wall with the 18th-century cast-iron "anchors" still in place. It now forms the interior wall down one side of the very long entrance hallway and provides a warm, sculptural surface behind white columns placed progressively further apart as you proceed into the house. "The idea behind the spacing of the columns was to create a sense of perspective," Ploeg explains. "When you come in, the hallway looks short; but when you leave it looks long. I thought

Tracy Metz lives in Amsterdam and is the features editor for NRC Handelsblad, *a Dutch newspaper. She writes frequently for* RECORD *about European architecture.*

Project: *Premsela-Broeksma house*
Architect: *Tijmen Ploeg Architecten—Tijmen Ploeg, partner-in-charge; Koert Boomgaard, contributor*
Engineers: *Strackee bv Bouwadviesbureau*
General contractor: *Bouwbedrijf M.J. de Nijs en zonen bv*
Gross square footage: *7,150 square feet*



Tijmen Ploeg solved the problem of how to get light into all the apartments by designing a light well that runs along the side of the building. The house is unabashedly modern, despite its 18th- and 19th-century neighbors (left).







Rather than trying to mask the long, thin nature of the space, Ploeg emphasized it by placing the bathrooms and kitchens in the middle rather than along the walls (above left). Bookshelves line the north wall of all the apartments (above right).

that was a suitable image of hospitality."

The visitor's sense of distance in this unusual space is heightened by the lighting, which was designed by Dutch designer Aldo van den Nieuwelaar, who used sensors to turn on individual bright bulbs as you move under them and turn them off as you soon as you move away, making the process of entering the house into a procession in which every step is marked.

The materials are the same throughout: galvanized steel, an industrially poured gray concrete floor, and black doors.

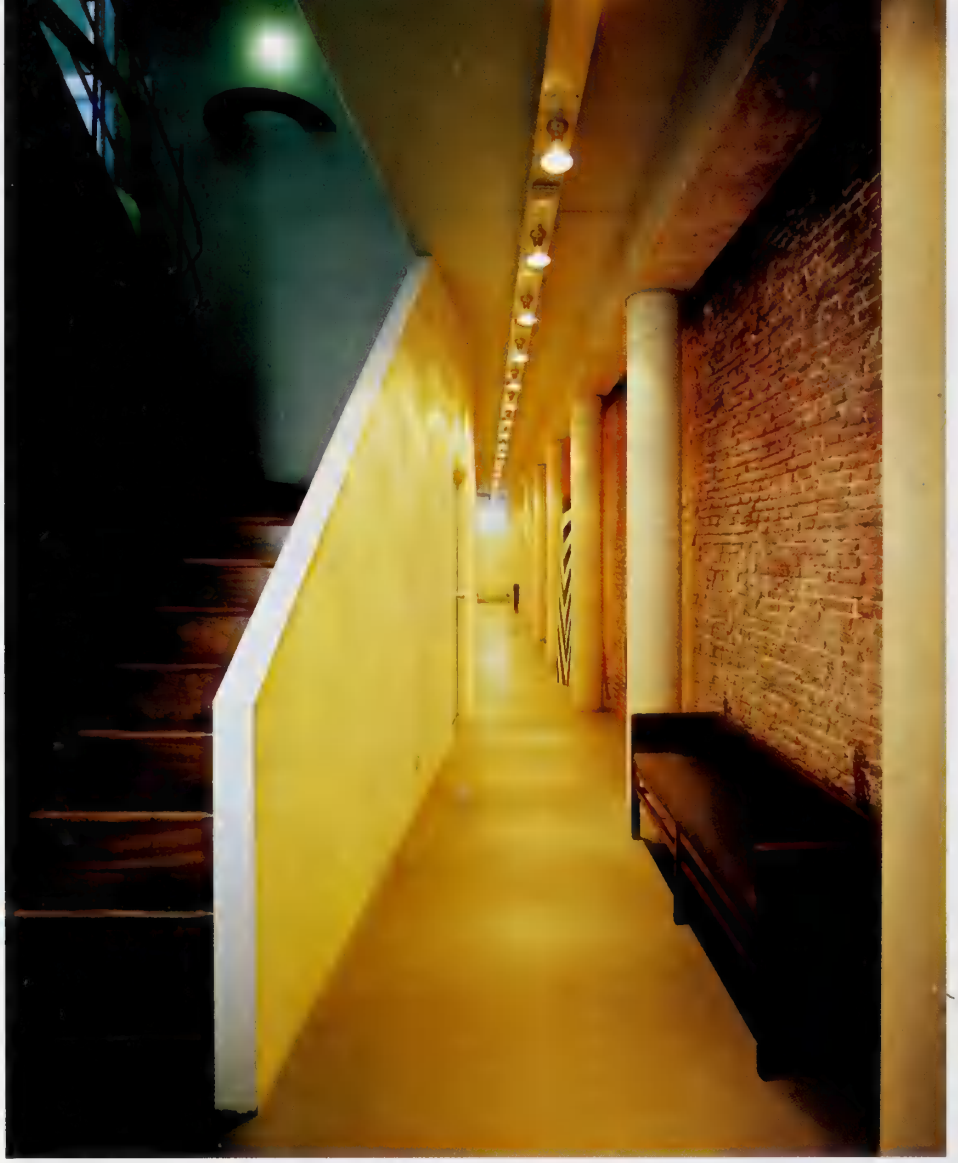
Even though the house has various inhabitants, the architect was, to his great relief, directed to design it as a whole. The materials are therefore the same throughout: galvanized steel, an industrially poured gray concrete floor, and black doors. The apartments all have sliding doors that are so well integrated into the architecture that, when closed, they simply look like walls.

At Ploeg's suggestion, the northern walls in all the apartments are lined with bookshelves (or, in the case of the music critic's apartment, with shelves for compact disks). Interspersed among the bookshelves are spaces for exhibiting smaller objects from the owners' extensive art collections. Rather than trying to mask the long, thin nature of the space, Ploeg chose to emphasize it, placing bathrooms, kitchens, and built-in coat racks in the middle, instead of along the walls.

Modern, inside and out

The Premsela-Broeksma house is unabashedly Modernist, the style that has dominated Dutch architecture ever since its ideological heyday in the twenties and thirties. Hasn't Modernism outlived its social agenda? "This is definitely my style," declares Ploeg proudly. "I have yet to see a better style take its place. I was raised as an architect in the school that believes that the outside has to be an expression of the inside. Honest Modernism."

ENSOR





Moreover, he says, the Modernist approach is an integral part of his answer to the question that this specific commission posed. "I wanted the facade to fit modestly into its surroundings. The building to the right is a much busier, with a more ornamented 19th-century brick facade, but they share a number of characteristics. Look at the color of the brick, the horizontal lines, the closed ground floor. And if you have a feeling for proportions you can tell that there is another correlation as well: the long rectangular windows in my design have the same surface area as the three upright windows next door."

Benno Premsela and Friso Broeksma wanted a house in which to age comfortably, but Premsela passed away a mere three years after it was completed. After his partner's death Broeksma paid the architect the ultimate compliment: "It's also a good place to be alone in." ■

A light well that runs along the side of the stair allows light into all the apartments (above left). In the entrance lobby, columns are placed progressively farther apart to create a forced perspective (above right). A roof garden is one of the building's shared amenities (below).



Sources

Floors: *Prefab Beton Veghel B.V.*
Structural walls: *Kalkzandsteebfabriek Roeiersma bv*
Structural steel: *Kersten bv*
Stairs: *J. de Dekker bv*
Masonry: *Donkervoort*
Metal/glass curtain wall: *Janssen-Vis*
Wood: *Meranti*
Upswinging garage doors: *Hormann*
Closers: *Ellen-matic*
Resilient flooring: *Bolidt*
Plumbing: *Breman Noord-Holland bv*

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▲ Something's cooking

The Varenna collection offers multiple finishes, colors, woods, counters, bases, wall units, sinks, and cooking tops, which allow for the freedom to create a variety of personalized kitchen systems for different lifestyles. Habitat (below) features stayed natural cherry doors, suspended elements in glazed glass, and a work top in stainless steel. The line also includes Line, Alba, Norway, Planet, Asia, and the minimal Alea (shown above). Varenna also offers a wide variety of tables and chairs for the modern kitchen. 877/VARENNA. VarrennaPoliform USA Inc., New York City. **CIRCLE 200**



► Over your head

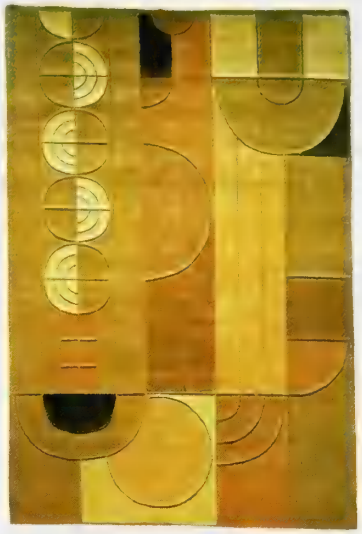
Mood, designed by Marten Claesson, Eero Koivisto, and Ola Rune, is an extra deep bathtub made of DuPont Corian. The tub was originally designed for the renovation of a private townhouse in central Stockholm. Inspired by Japanese baths, which are deep enough to cover the bather's shoulders when sitting upright, the designers devised a proportioned design where one side is precisely double the dimension of the three others. This not only provides the needed space to house the faucet but lends the form asymmetry. 212/431-8282. Boffi New York Inc., New York City. **CIRCLE 203**





▲ Living the life of leisure

Hana, one of four new groups of outdoor furniture from Tropitone, integrates teak arms into an aluminum frame. Hana features tapered legs, turned teak arms, and teak accents at the ends of aluminum tubes. The five pieces in the collection are a dining chair with a sling bucket, waterfall front edge, a swivel rocker with a choice of Easy-motion or Ultra-action rocker mechanisms, a 48-inch-diameter dining table with teak legs, and a chaise lounge with an adjustable back. 949/951-2010. Tropitone Furniture Co., Irvine, Calif. **CIRCLE 204**



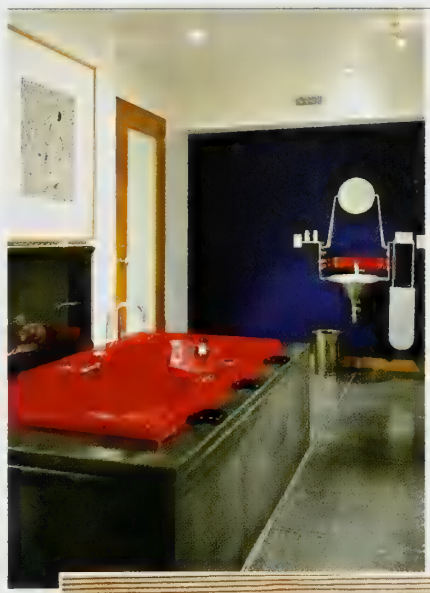
▲ Wright rugs

The new designs in the Frank Lloyd Wright Collection of rugs were translated from original renderings from the Frank Lloyd Wright archive. Adaptation and coloring of these designs were created in collaboration with a division of F. Schumacher & Co. The entire rug collection, manufactured in Nepal, consists of 60-knot, 100-knot, and silk-and-wool handmade Tibetan rugs stocked in 6-by-9-foot, 8-by-10-foot, and 9-by-12-foot sizes. 800/247-7847. Costikyan Carpets, L.I.C., N.Y. **CIRCLE 202**

▼ This table's got it covered

Jefferson Mack's line of metal furniture includes a series of Valve Cover tables featuring a cast-iron top and hand-forged legs. The series currently offers the San Francisco and New Orleans table (shown), but other city covers are planned. Mack cast the San Francisco valve cover in homage to the genuine cover, a smaller, oval shape designed in the 1920s. 415/550-9328. Jefferson Mack Metal, San Francisco. **CIRCLE 201**





▼ Flexible concrete

For the past five years, Get Real Surfaces has developed methods for casting malleable, solid, yet lightweight concrete to create one-of-a-kind countertops, sinks, bathtubs, fireplace surrounds, tiles, and a variety of poured-in-place items. The Strata series of organic-themed, three-dimensional, tinted concrete tiles (below) can be used alone or as decorative details in conjunction with flat tiles. 212/414-1620. Get Real Surfaces, New York City. **CIRCLE 205**



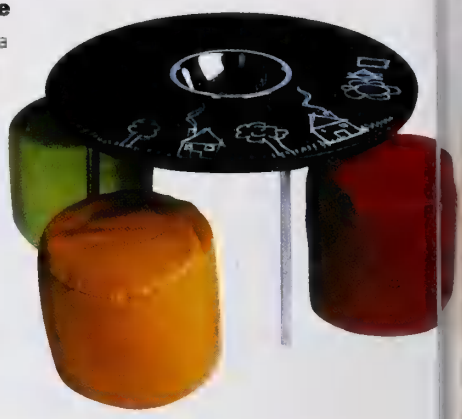


▲ Faucet centerpieces

These sculptural faucets stopped attendees in their tracks at the Cersaie tile and bathroom furnishings show held last October. The heart-shaped Paola e Francesca tap (left), with a curving value for hot water that meets with one for cold, symbolizes the combination of two people in love (which sometimes runs hot and cold as well). The Narciso tap (right) not only avoids the traditional downflow of water but allows for the momentary view of the water whirling between the clear top before it cascades down. In this faucet, two simple truncated and overturned brass cones are intercepted by a box formed by three sheets of glass. 39/0163/560000. Rubinetterie Ritmonio s.r.l., Varallo, Italy. **CIRCLE 206**

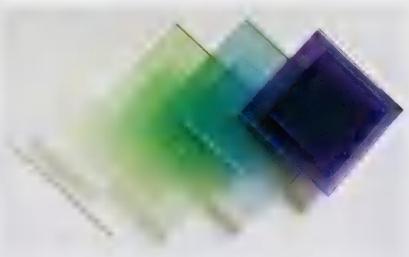
► Chalk it up to experience

Kids (and parents) stuck inside on a rainy day will appreciate the potential of the Chalkboard Table, available now from Offi & Company through its acquisition of Bravo 20. The 22-inch-high, 36-inch-diameter table is made with a heavy-duty chalkboard surface and a bowl in the center for chalk and erasers. 800/383-OFFI. Offi & Company, Emeryville, Calif. **CIRCLE 207**

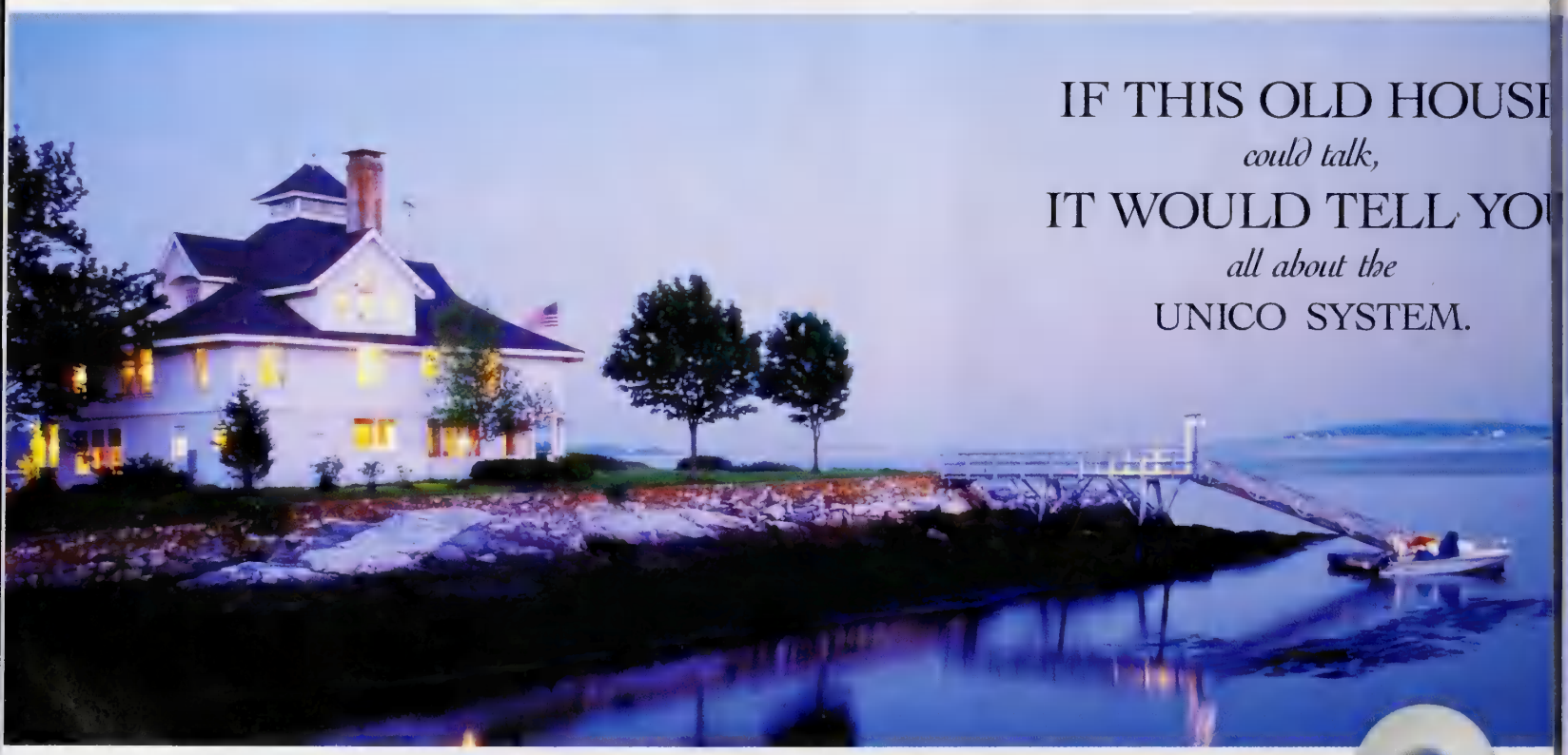


▼ Chilling trends

Lucite cast acrylic can be used in the bathroom on bathtubs, shower trays, and whirlpools. Lucite, which is 100 percent recyclable, is available in more than 300 colors and a series of special effects. Choices include metallics, pearly pastel luminescents, marble, hard stone, and granite, as well as four semitransparent colors of Lucite Ice (violet, azure blue, green mint, and white, shown here). 44/1254/874000. Ineos Acrylics, Lancashire, England. **CIRCLE 208**



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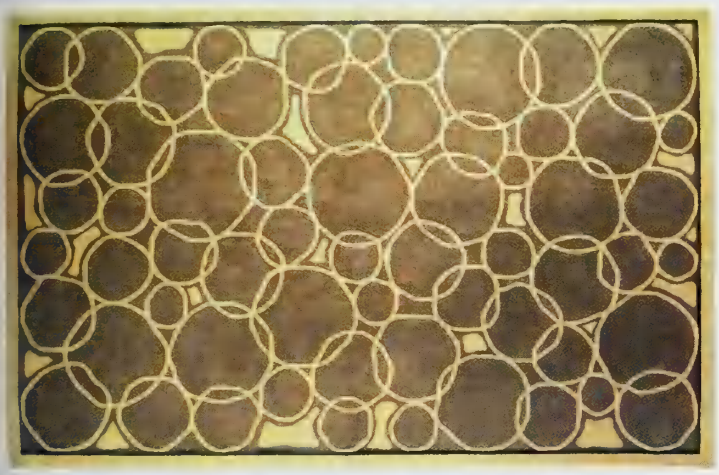
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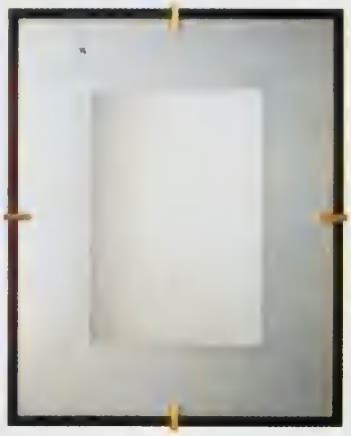
▲ Magic carpets

The design of the Celestial Trellis area rug (shown), from Edward Fields, was inspired by the movement of clouds across the arch of the sky. Interpreted in beige with brown, Celestial Trellis can be custom-made in any size or color combination in 100 percent virgin wool. Ondine, also handcrafted in virgin wool, features a scroll pattern that rims the edge of the rug like a sculptured wave. Inspired by a mystical female water spirit, Ondine can be crafted in any custom size or color. 212/310-0400. Edward Fields, New York City. **CIRCLE 209**

▼ Minimal enclosures

Alumax offers a comprehensive line of bath enclosures featuring framed, frameless, and heavy-glass units in standard or custom sizes and configurations. Other options include numerous glass patterns and 16 custom colors and finishes. The minimal use of metal framing lends a clean, upscale look to Alumax's DesignLine Series. 870/234-4260. Alumax Bath Enclosures, Magnolia, Ariz. **CIRCLE 210**





▲ The fairest of them all

Skyline Design introduces Coda, a line of high-end, decorative mirrors that feature Skyline's etching techniques. Coda's five mirror collections range in size from 10 by 29 inches to a grand leaning mirror on casters that is 56 by 86 inches. The Miso mirror, shown above, features an Asian-inspired design with woven textures and Japanese buttons. 773/278-4660. Coda, Chicago. **CIRCLE 211**

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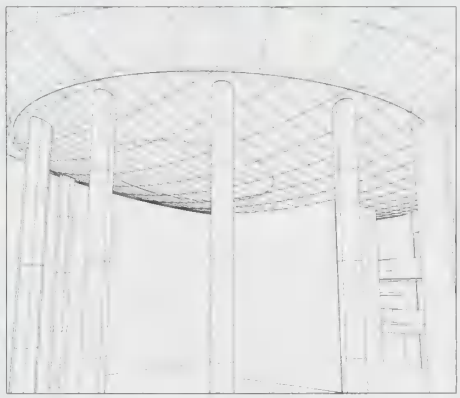

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New Products

When specifying walls or ceilings architects decide either to blend them into the overall design or make them design elements of their own. Affordable, customized systems make it easier for architects to design unusual looking walls and ceilings. Both categories are experimenting with new technologies, especially with metal. *Rita F. Catinella*







The exterior (far left) and interior (middle) view of the rotunda ceiling designed by Gensler for the Nikken Headquarters in Irvine, Calif. Ceilings Plus used a 3-D modeling program (line drawing, left) to create the egg-shaped inverted dome desired by the client.

Custom metal panel system translates client's corporate philosophy

By using advanced computer-aided design and manufacturing techniques, Ceilings Plus has substantially automated the production of customized perforated-metal panels.

"If you can draw it, we can probably fabricate it," says Ceilings Plus president Nancy Mercolino. "Our CAD/CAM systems enable us to translate even the most complex, multi-dimensional architectural shapes into practical, affordable ceiling and panel systems."

The company recently fabricated the planetarium cladding for the Rose Center for Earth and Space, designed by Polshek Partnership at the American Museum of Natural History in New York [AUGUST 2000, page 98]. The panels on the 57-foot-diameter sphere had to be fabricated to extremely close tolerances, and the locations of over 5.5 million perforations had to be individually calculated and punched.

The rotunda ceiling, designed by Gensler for the Nikken Headquarters in Irvine, Calif., posed an even greater geometric challenge. The shape of the inverted dome is based on an egg, and the surface is irregular in plan, with different curvatures along its length and width. As a result, every panel has a different shape. In addition, the perforation pattern in the acoustical ceiling had to be altered in order to create the appearance of the egg's yolk. To fabricate the ceiling, explains Ceilings Plus designer Gary Kawamura, "we entered the overall geometry of the ceiling into a three-dimensional modeling program. The program then calculated the panel sizes and shapes, including allowance for stretch-forming flat sheet metal into the required compound curves." This data was converted into digital code that could be read by the firm's numerically controlled punch presses and brake forms so panels could be produced automatically.

In addition to design flexibility, perforated-metal ceilings are acoustically effective and lightweight. They can be integrated with air distribution and lighting fixtures, require little maintenance, and are 100 percent recyclable. 800/822-3411. Ceilings Plus, Commerce, Calif.

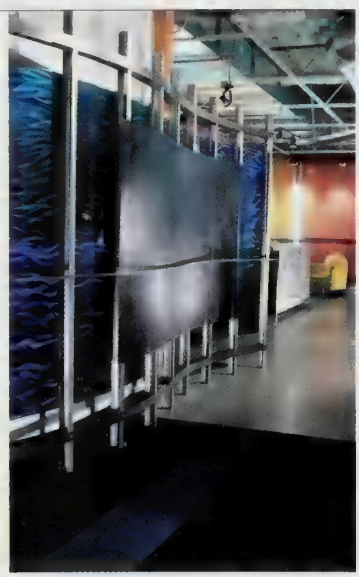
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Custom interior aluminum paneling

MóZ Designs fabricates and designs signature aluminum panels for vertical surface applications in commercial interiors. The company has collaborated with Rockwell Group, Bottom Duvivier, Gensler, and HOK on projects for clients as diverse as Disney Imagineering, Sun Microsystems, Bank of America, and Hewlett Packard.

All metals are available in 4-by-8-foot and 4-by-10-foot sheets, and can be cut to custom width and length requirements. Many styles and perforated patterns are available in any standard grain or color. Applications include column covers, wall-paneling systems, office reception facades, decorative privacy screens, ceiling pan inserts, canopies, display units, furniture, signage, and more.

The 8-foot-high, 18-foot-long screen for McCann Erickson Advertising in San Francisco (shown) features MóZ aluminum paneling and perforated aluminum in the Waves pattern in royal blue. 510/444-0853. MóZ Designs, Oakland, Calif. CIRCLE 241



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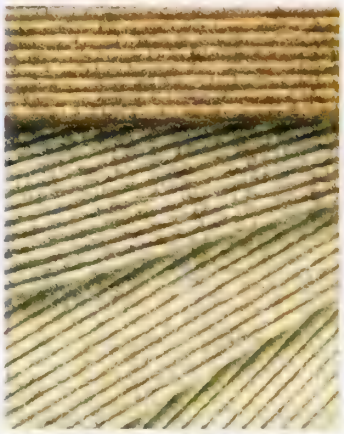
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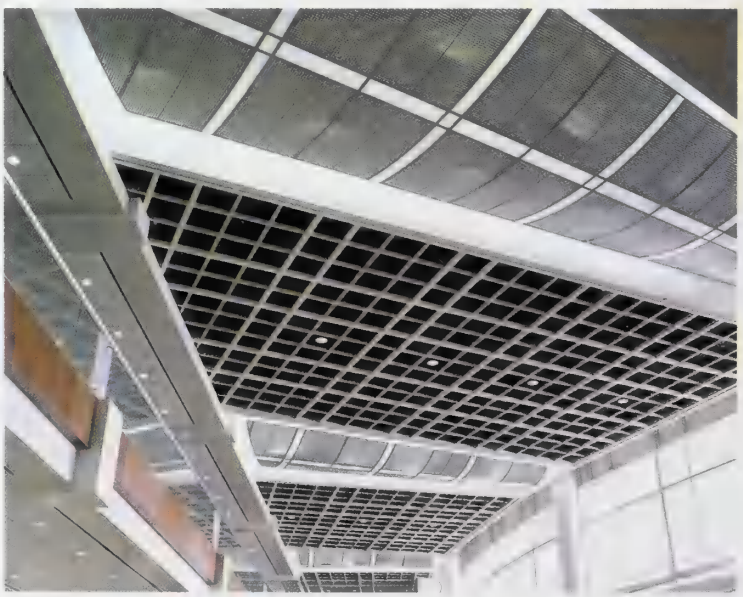
▲ More colorful wall carpet

Tretford wall carpet is code-compliant, cuts without raveling, and now comes in an extended palette of 52 heathered colors. Cut and joined to make original designs, it is suitable for wall graphics and creative floor treatments. Tretford has a ribbed texture, absorbs sound, and helps control operating costs. Rolls and cuts may be supplied from inventory within 24 hours of receipt of order. 800/523-0731. Eurotex, Philadelphia. **CIRCLE 242**

▲ Not to be seen, or heard

Mars Climaplus acoustical ceiling panels feature a monolithic texture and offer abuse resistance, humidity resistance, and room speech privacy. The panels are also highly scratch-resistant, offer noise reduction up to NRC .75, and have high light reflectance, which helps reduce eye strain. The panels are manufactured from 74 percent recycled content. 800/USG-4YOU. USG Corporation, Chicago. **CIRCLE 243**





▲ Floating ceiling system

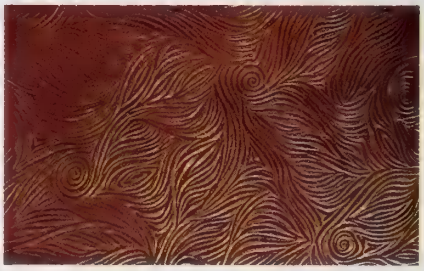
The Interior Specialties Division of Gordon has manufactured a ceiling system located in the world's largest rent-a-car facility in the Dallas/Fort Worth International Airport. Designed by Corgan Associates to be a floating element that defines a large space, this ceiling creates a custom version of Gordon's Aluma Vault system by combining the modular beam grid and perforated-metal panels that are suspended from gypsum board coves above. 800/747-8954. Gordon Inc., Shreveport, La. **CIRCLE 246**



◄ Well researched

The Luxalon Open Cell ceiling system was selected to create a continuous visual inside the new 85,000-square-foot Jen Library at the Savannah College of Art & Design. It was a challenge since the space has various ceiling heights and was once built as three different buildings, each made from different materials (such as brick, wood, and concrete). The system effectively masks the plenum while also providing easy access for service personnel. 800/366-4327. Hunter Douglas Architectural Products, Norcross, Ga. **CIRCLE 245**

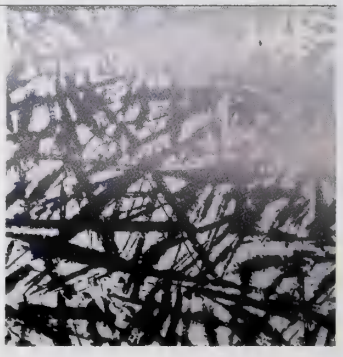
► Metal wall surfacing

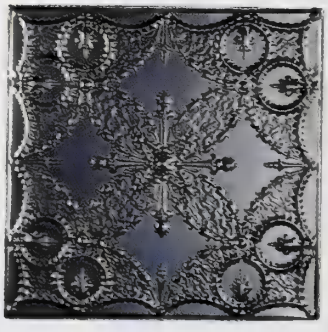


Bonded Metal, originally introduced 30 years ago, is currently available in a diverse array of finishes and patterns. Applications include doors, wall surfacing, elevator entrances and cabs, columns, counter facings, and other decorative accents. Bronze, brass, copper aluminum, steel, and nickel silver are available in a range of patterns and patinas. The Zinfandel pattern in Bonded Copper is shown here in a light patina. 877/626-7788. Surfaces+, Carpinteria, Calif. **CIRCLE 244**

► Wood and metal finishes

Marlite's Surface Systems product line is now available in a selection of new metal and wood finishes. The wood finishes include exotic names such as Quartered Figured Gaboon and Quartered Fiddleback Makore. The metals offer finishes such as Bramble Aluminum (shown). 330/343-6621. Marlite, Dover, Ohio. **CIRCLE 247**





◄ Retro styles looking up

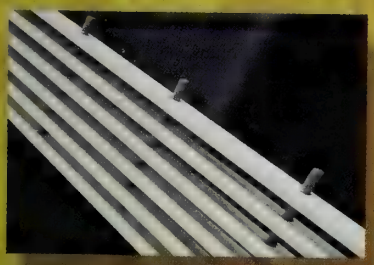
The Traditions line of stamped ceiling and wall panels has been expanded to include additional pattern and product options for both public and residential areas. Perforated panels and insulation pads are available for acoustical performance, along with a variety of decorative cornices, wall angles, and filler panels. 800/323-7164. Chicago Metallic, Chicago. **CIRCLE 248**

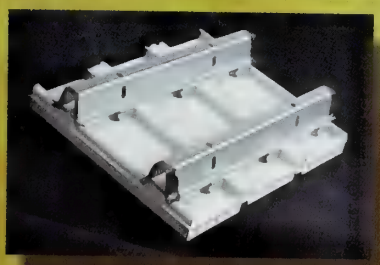
RULON

COMPANY

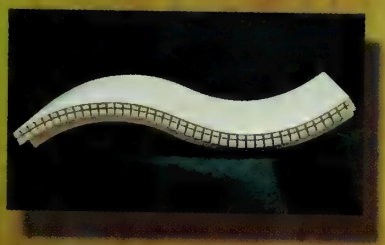
SPECIALIZING IN SUSPENDED WOOD, uPVC CEILING SYSTEMS AND WALL PANELS

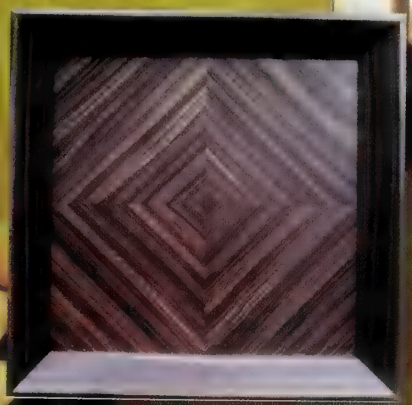
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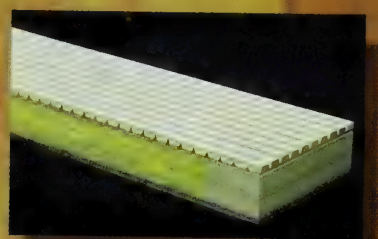




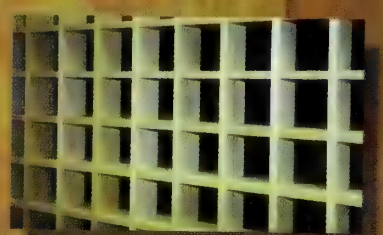






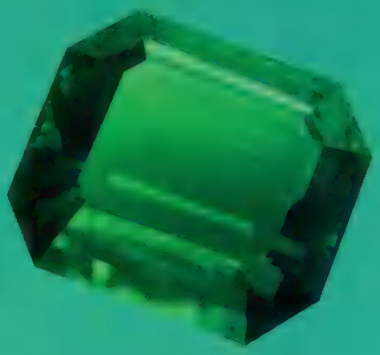




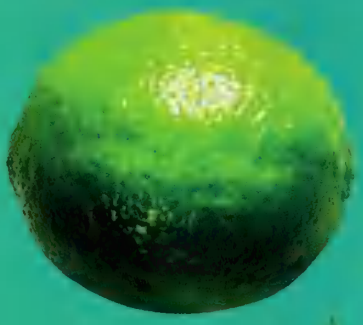


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CIRCLE 56 ON INQUIRY CARD



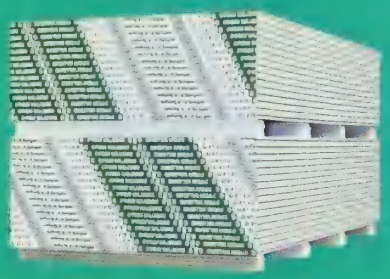
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CIRCLE 57 ON INQUIRY CARD

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Product Briefs

► Graphic laminate



Graphic Standards provides 30 digital and silk-screen laminate designs that are available in Wilsonart's standard 10-day lead time. Patterns like "You Rock" and "Grass" are high-fidelity digital reproductions of natural materials (in this case, river rocks and St. Augustine grass). Eight of the patterns were picked from the Millennium collection, developed by a group of young designers. The designs can be used for a variety of applications, including store fixtures, tabletops, or cabinets. 800/433-3200. Wilsonart Intl., Temple, Texas. **CIRCLE 212**



◄ Stylish safety

The new colors in the Altro Impressionist II safety flooring line have been categorized into four groups: Relax, Energy, Warm, and Cool (Electra from the Energy group shown here). To deliver slip resistance, Impressionist II has aluminum oxide and colored quartz throughout the thickness, with silicon carbide in the surface. 800/565-4658. Altro Floors, Mississauga, Ontario. **CIRCLE 214**



▲ Worth the wait

The Terminal series from Kusch+Co. adds style to any image-conscious lobby, waiting room, airport, bus terminal, train station, reception area, or museum. Terminal is available with or without arms or upholstery, and it is offered in a selection of finishes. The ergonomically shaped seat and back are attached to the crossbeam by formed steel supports, and benches can be connected at any angle from 90 degrees to 270 degrees with a fitted hinge system. 631/589-7337. Kusch+Co., Bohemia, N.Y. **CIRCLE 215**

Product of the Month
Herman Miller RED



To meet the needs of fast-growing small businesses and their culture, Herman Miller didn't merely create a new product but an entirely new division. Positioned as a middle point between store-bought, ready-to-assemble furnishings and more expensive contract furniture, Herman Miller RED will be sold over the Internet and can be on the job in about a week. The lunar-inspired Spider table (below), designed by Eric Chan of ECCO Design, and the Rocket (above), designed by Ayse Birsel of Olive 1:1., will come with a variety of accessories to provide cable management, storage, and privacy. 616/654-3000. Herman Miller, Zeeland, Mich.

CIRCLE 213



► Sleek projector mounts



Draper is offering a new line of products that includes tilting wall and ceiling mounts for plasma displays, and adjustable ceiling mounts for LCD/DLP projectors. Draper's Aero Mount for LCD/DLP projectors features a sleek, contemporary design, and adjustments can be made with the projector still attached. The Aero provides 30-degree roll adjustment, 30-degree pitch, and 360-degree yaw, and it tilts to accommodate a sloped floor. The mounts have built-in cable management and electrical outlets and a "keystone" bracket slide that can be fitted to any plasma display. 765/987-7999. Draper, Inc., Spiceland, Ind. **CIRCLE 216**

Product Briefs

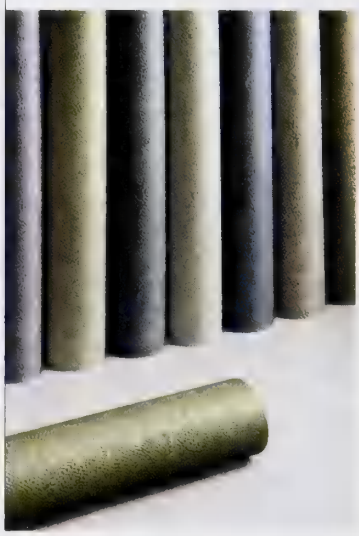


▲ Carbon-fiber furniture

The Talon Chair, designed by Bang Design in Australia, is the first large-scale, affordable use of carbon fiber for furniture. Best known for its application in the body of the Ferrari F50 and the 1994 America's Cup winning yacht, carbon fiber is ultralight and possesses 15 times the strength of steel. It is fireproof, weatherproof, and warm to the touch. Unlike fiberglass, carbon fiber can be economically recycled into other, less complex molded forms. 800/237-1625. ICF, Valley Cottage, N.Y. **CIRCLE 217**

▼ Reptilian, but not slippery

LonDile, a new resilient sheet vinyl flooring option, recalls a variety of surfaces including reptile skin, basket weave, or rough concrete. LonDile's 10 metallic color choices enhance the flooring's 3-D effect. Londile comes in standard 6-by-60-foot rolls and is designed for retail, hospitality, and entertainment spaces. 800/832-7111. Lonseal, Carson, Calif. **CIRCLE 218**





▲ One tough customer

Builders in Shenzhen, China, needed a reliable product to protect the walls and roof of the Kaohsiung Ren Wu incinerator. Partly because of the 20-year warranty, they clad the walls with 128,400 square feet of coated Centria Formawall steel wall panels. The roof is made from 23,500 square feet of Box Rib panels from Centria coil stock. 412/299-8240. Centria Intl., Moon Township, Pa. **CIRCLE 219**

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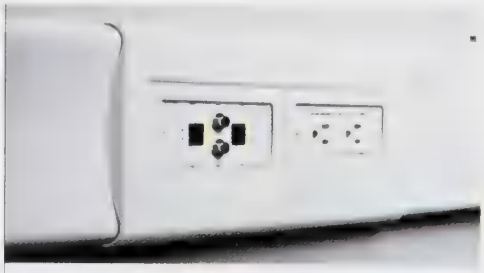
CIRCLE 58 ON INQUIRY CARD

Product Briefs

▼ New arrivals for the American office

Steelcase has introduced the International Collection to the North American market. The collection is made up of three design groups called Werndl Emerge, TNT, and Please. Werndl Emerge (shown) is built around the new Emerge desk system, which features adjustable legs, removable casters, mobile work areas, and surfaces available in a variety of materials. Emerge also offers adjustable shelving and a series of fixed and mobile storage units. 616/698-4514. Steelcase, Caledonia, Mich. **CIRCLE 220**





▲ Won't get a second glance

Wiremold's Profile Series Raceway features a curved contour that reduces visual impact and gives the system a smoother look. The raceway maintains a two-inch cable bend radius without protruding corner bulges, and it has separate channels for power and/or data cabling, including UTP and fiber optics. A corner drop allows cable to be fed from the ceiling without penetrating partitions. 800/621-0049. The Wiremold Company, West Hartford, Conn. **CIRCLE 221**

► Mossy membrane



The Roofing Systems Group of Johns Manville donated an UltraGard SR-80 roofing membrane to serve as the base for a "green roof" application at the renovated Earth Conservation Corps Center in Washington, D.C. Green roof technology involves putting a thin soil and vegetation layer over protection board applied to the waterproof membrane, covering the entire roof surface. This reduces storm water run-off and improves energy performance. 303/978-2000. Johns Manville Roofing Systems, Denver. **CIRCLE 222**

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CIRCLE 59 ON INQUIRY CARD

Product Briefs



▲ Fogging up the windows again

Thermally reversible light scattering, or thermoscattering, allows a window to obscure the view when cold (above, right) and become crystal clear when heated (above, left). ThermoSEE glass uses this technology and can be specified for privacy windows, skylights, sunrooms, oven windows, view ports for doors, fireplaces, or decorative mirrors. In addition to the privacy effect, the ThermoSEE glass can enhance the daylighting of a skylight by scattering light so it appears as a bright white light, similar to a fluorescent light. When heated, the glass becomes crystal clear and appears as ordinary glass. 616/738-8540. Pleotint L.L.C., West Olive, Minn. **CIRCLE 223**

► A new renaissance



Moduline Window Systems' Renaissance Option resurrects the neoclassical style of architecture, offering the retro look of wood, steel, and aluminum windows of the past, which were often putty-glazed (a better glazing technology in aluminum windows has eliminated the use of putty glaze). The Renaissance Option is available in any window system or type of muntin and offers added features, such as a mitered frame and a glass edge protector. 800/521-8742. Moduline Window Systems, Wausau, Wis. **CIRCLE 224**

► Even playing field



CSSI's new 1-inch-in-12-inch slope perimeter transition ramps, featuring wheelchair access graphic displays, complete the Playguard resilient surfacing system. The ramps comply with ADA guidelines and meet all requirements established by the U.S. Consumer Products Safety Commission and the ASTM for playground surfacing. CSSI offers a full line of resilient rubber flooring products for playground, fitness, recreational, and architectural uses. 800/851-4746. CSSI Resilient Surfacing Products, Carlisle, Pa. **CIRCLE 225**

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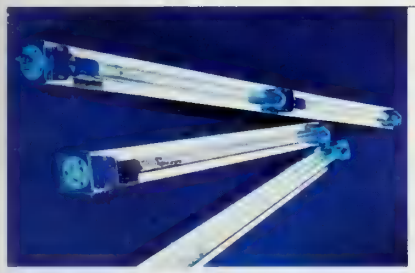
Hunter Douglas Architectural Products, Inc.
5015 Oakbrook Parkway, Suite 100
Norcross, Georgia 30093 • 800-366-4327
www.hunterdouglasceilings.com

Product Briefs

► For heated conversations



Quash FR1000 and Quash FR2000 sound-management polyolefin-based foams provide sound absorption while helping to inhibit accidental ignition from high heat or small fire sources. The foams provide an alternative to common materials used in acoustical applications, such as fibers, drywall, wood, and cement, and they are well suited for commercial and harsh industrial environments. 800/411-4369. Dow Performance Foams, Midland, Mich. **CIRCLE 226**

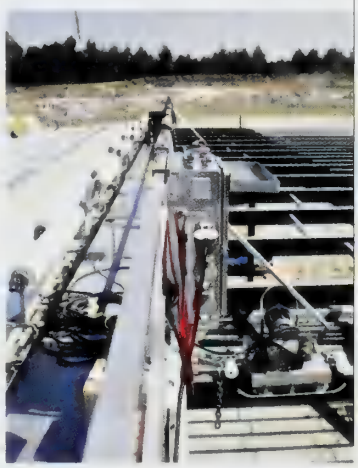


▲ For hard to reach places

The new Twist-Lock UVC emitter is designed for side-access installations in commercial HVAC systems, where access inside the plenum is difficult or restricted. By using the plug at each fixture end, up to six units can be physically or electrically connected, thus forming a string that slides in and out of an air handler. The emitter's high output in moving and/or cold air prevents microbial growth in HVAC systems. 562/467-8484. Steril-Aire, Cerritos, Calif. **CIRCLE 228**

▼ Sure footing

The Elaminator 300 Series metal roofing insulation system addresses the leading cause of construction fatalities—falls from or through the roof—which accounted for 86 deaths in 1998. Elaminator enhances builder/erector safety, increases installation productivity of the insulation and roofing crews, and meets thermal performance needs of metal buildings. 419/248-8000. Owens Corning World Headquarters, Toledo. **CIRCLE 227**





▲ Easier bedside viewing

RelaxView is a new type of bedside television intended for the healthcare market. The lightweight monitor, designed by Dr. Kazuo Kawasaki, features an active matrix TFT color liquid display, an easily adjustable flexible arm, and an option of video or PC input. The screen is laminated with acrylic, making it easy to clean, and the arm is designed to prevent fingers from getting pinched. RelaxView will be introduced to the U.S. market in the second quarter of 2001. 800/800-5202. Eizo Nanao Technologies, Cypress, Calif. **CIRCLE 229**

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Photo: Cathy Kelly Architectural Photography
A/D FIREFILM® II on structural steel.

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Product Literature

Luxury bath brochure

A new brochure from Porcher displays a variety of bathroom products with a European flair, ranging from slipper tubs and whirlpools to glass above-counter lavatories. 800/524-9797, ext. 199. Porcher, Piscataway, N.J. **CIRCLE 230**

Hospitality environments

USG Corporation has developed a new eight-page brochure that gives hotel and restaurant designers detailed information about specific products that have been designed for the unique needs of hospitality environments. 800/950-3839. USG Corporation, Chicago. **CIRCLE 231**

New resource manual

Chicago Metallic has introduced a new architectural resource manual, designed to provide all the information needed to specify its commercial ceiling, wall, and door-frame systems. 800/323-7164. Chicago Metallic, Chicago. **CIRCLE 232**

Exterior/interior door catalog

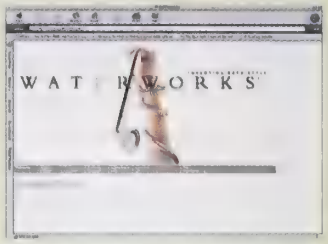
Simpson Door Company introduces *Design Gallery II*, a new 66-page catalog featuring the Mastermark collection of exterior and interior wood doors. 800/952-4057. Simpson Door Company, McCleary, Wash. **CIRCLE 233**

Cone-roof shingle bulletin

The Asphalt Roofing Manufacturers Association has introduced *How to Shingle a Cone Roof*, a technical bulletin that discusses the challenges of shingling cone-shaped roofs. The bulletin defines and explains the best roofing procedures for cone roofs with flat sides and round sides. 800/829-3572. Asphalt Roofing Manufacturers Association, Calverston, Md. **CIRCLE 234**

NEW SITES FOR CYBERSURFING

Searchable database for residential bath products **www.waterworks.com**



Review the company's complete lighting brochure **www.bega-us.com**

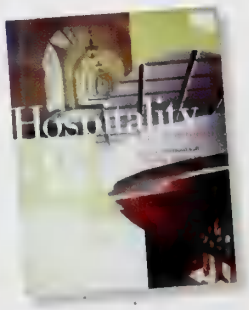
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International online marketplace for interior fabrics **www.tapestria.com**









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Product Literature

Computer-based training

The OmniLink Contractor Training Series is a collection of computer-based training courses addressing voice/data/video installations for copper and fiber-optic applications. 901/252-5000. Thomas & Betts Corporation, Memphis. **CIRCLE 235**

From floor to ceiling

Armstrong's new 164-page commercial flooring catalog divides the product line into five major categories: linoleum, vinyl sheet flooring, luxury solid vinyl, vinyl composition tile, and specialty flooring. The catalog also provides a summary of reference information, product attribute information, and a variety of technical data. Also new from Armstrong is *School Zone Ceiling Systems*, a CD-ROM that shows how the proper choice of a ceiling can create more effective facilities for learning. 877/ARMSTRONG. Armstrong World Industries Inc., Lancaster, Pa. **CIRCLE 236**

Take the bite out of wood

The Southern Forest Products Association, on behalf of the Southern Pine Council, recently published a brochure focusing on the many uses of pressure-treated wood, including the product's inherent protection against Formoson termites. 504/443-4464. **CIRCLE 237**

Energy code CD

A new CD from BOCA provides design professionals and code officials with the most contemporary energy-conservation codes and the U.S. Department of Energy's code-compliant manuals and software. 800/214-4321, ext. 371. Building Officials and Code Administrators International, Country Club Hills, Ill. **CIRCLE 238**

Protective coatings info

The Society for Protective Coatings (SSPC) has acquired resale rights to the recently published *Visual Comparison Manual*, a book and CD-ROM set designed as a guide to the general cause and appearance of common coating failures and application defects on steel, concrete, and other substrates found in industrial, commercial, and marine environments. The society has also published a newly compiled glossary of terms and acronyms associated with the use of protective coatings. 877/281-7772. SSPC, Pittsburgh. **CIRCLE 239**



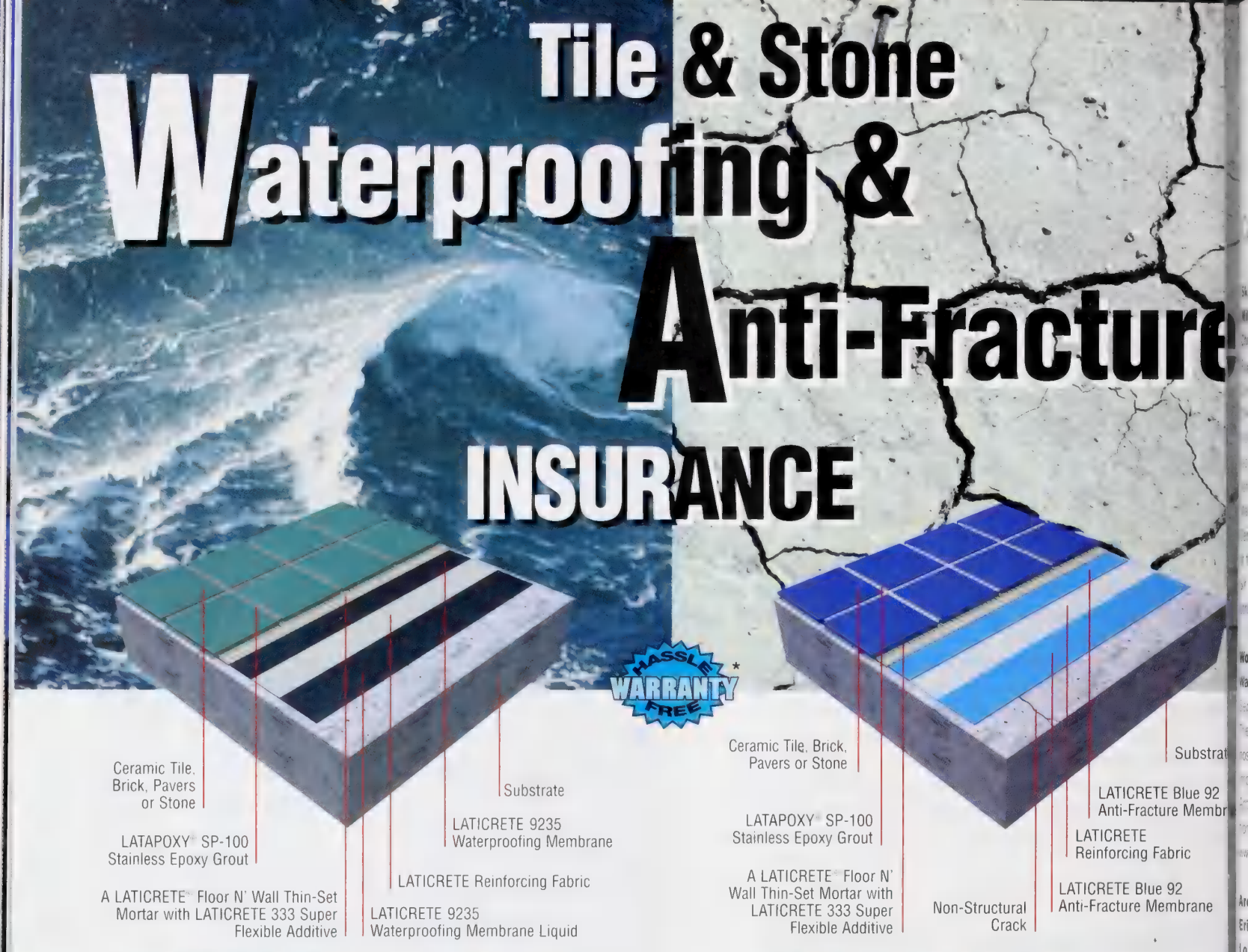




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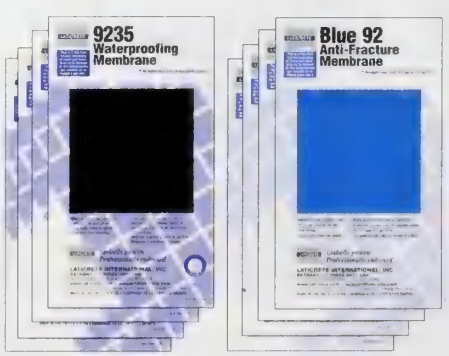
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Dates & Events

Calendar

Skyscrapers: The New Millennium
Chicago
August 19–January 15, 2001
Sponsored by the Art Institute of Chicago, this exhibit examines more than 70 high-rises either recently completed or in construction. The exhibit includes the Jin Mao Building by SOM, the Sony Center by Helmut Jahn, and some of the latest green skyscrapers by Sir Norman Foster, Ken Yeang, and others. See www.artic.edu.

Wood: An American Tradition
Washington, D.C.
September 9–April 22, 2001
The National Building Museum is hosting an exhibition exploring the important and varied role of wood in American architecture. For information call 202/272-2448 or see www.nbm.org.

Architect of Form and Spirit: Eric Mendelsohn in Saint Louis
St. Louis
September 17–March 10, 2001
A major exhibit highlighting the life and work of German architect Eric Mendelsohn, designer of COCA's current home, where the exhibit will be. Call 314/725-6555 or get more information on the Web at www.cocastl. org.

How Architecture of the '70s Shapes Buildings of Today
Harvard and Cornell Universities
October 17–April 24, 2001
This series includes lectures by Rem Koolhaas, Rafael Moneo, Jorge Silvetti, Sara Whiting, Alan Colquhoun, and Felicity Scott. Free of charge. For more information, call 617/495-2337 or see www.gsd.harvard.edu /events.

Light, Life, Libeskind: A Look at the New Jewish Museum
San Francisco
October 26–January 28, 2001
The Jewish Museum of San Francisco is presenting an exhibition of Libeskind's drawings, computer renderings, and models of its new facility. For information call 415/591-8800; or write info@jmsf.org.

Monuments, Mills and Missile Sites
Washington, D.C.
October 26–April 29, 2001
This exhibit explores 30 years of the Historical American Engineering Record (HAER), which documents historically significant engineering and industrial works throughout the United States. At the National Building Museum, call 202/272-2448 or go to www.nbm.org

Flight Patterns
Los Angeles
November 12–February 11, 2001
This exhibit explores the landscape, urbanism, and relationship of cities to land in geographic areas of the Pacific Rim. At the Geffen Contemporary at MOCA. Contact 213/626-6222 or go to moca.org.

Moguls and Monuments
New York City
November 14–May 15, 2001
The Municipal Art Society of New York presents this illustrated lecture series on how the superrich built four of New York City's great buildings. Lectures include the Woolworth Building (January 23, 2001), the Chrysler Building (March 13, 2001), and Rockefeller Center (May 15, 2001). For information call 212/840-1840.

Dreams and Disillusion: Karel Teige and the Czech Avant-Garde
Miami Beach, Fla.
November 15–April 1, 2001
The Wolfsonian-Florida International University presents the first U.S. exhibition on Karel Teige, the graphic designer, architectural theorist, and important proponent of the European avant-garde. For information call 305/531-1001.

Cities in Motion
Montreal
November 15–April 1, 2001
Three exhibitions united around the theme of cities illustrate how modern transportation systems have changed the fabric and scale of cities over the past century. At the Canadian Centre for Architecture, 514/939-7000; icloutier@cca.qc.ca.

The Big Dig: Reshaping an American City
New York City
December 5–January 17, 2001
An exhibition of photographs by Peter Vanderwarker illustrates the city of Boston's Big Dig project to put its elevated Central Artery underground. The mural-size photos show the enormity and complexity of this immense public-works initiative. At The Urban Center. Call 212/980-3767 or see www.archleague.org.

Frederick J. Kiesler Endless Space
West Hollywood, Calif.
December 6–February 25, 2001
The exhibition highlights the 1959 Endless House project by Kiesler, who is considered one of this century's most significant nonbuilding architects and whose work has inspired today's experimental architects. At the R. M. Schindler House. Contact 323/651/1510 or see makcenter@earthlink.net

Building Images: Seventy Years of Hedrich Blessing Photography
Chicago
December 9, 2000–July 8, 2001
An exhibition of the photography of the firm of Hedrich Blessing, which revolutionized the way architecture and design are captured on film. Work includes photos of buildings by Frank Lloyd Wright, Mies van der Rohe, Eliel Saarinen, and others. At the Chicago Historical Society. Contact 312/641-4600.

010101: Art in Technological Times
San Francisco
Web cast begins one minute after midnight on January 1, 2001
The San Francisco Museum of Modern Art will launch a thought-provoking exhibition comprising five Web-based commissions that respond to a world altered by digital media and technology, including work by Asymptote Architecture. A more extensive exhibition of these and other works on this subject will be on view at the SFMOMA *March 3—July 8, 2001.* See www.sfmoma.org/010101 or contact 415/357-4000.

Preserving Corporate Modernism: Assessing Three Landmark Buildings by Gordon Bunshaft of Skidmore, Owings and Merrill
New Haven, Conn.
January 8–March 3, 2001
Focusing on the legacy of postwar corporate architecture patronage, this exhibition showcases three outstanding projects, including New York's Lever House (1952). At the Yale School of Architecture, A&A Gallery. Call 203/432-2296.

The Future of Design
Toronto
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tures, and product launches by 300 stellar designers, manufacturers, and retailers. For more information, 416/599-8885 or see interiordesignshow.com.

New New York 2
New York City
January 18–March 14, 2001
The exhibition highlights significant recent architecture commissioned for cultural, and other, facilities in New York City. At the Architectural League of New York. Contact 212/753-1722 or see www.archleague.org

The National Trust for Historic Preservation 2001 List of America's Most Endangered Historic Places
Nomination deadline: January 19, 2001.
The National Trust is now accepting nominations for this list; the results will be announced on *January 25.* Contact 202/588-6141 or see www.nationaltrust.org.

How to Maximize Resources and Efficiency through Internet Applications
Scottsdale, Ariz.
January 30–February 1, 2001
Hear the best practice studies on implementing e-business initiatives from some of the leading construction, hardware, software, design, and supply firms. To view agenda or register online, see www.iqpc.com/INHP-TT/construction, call Christiaan Hanson at 312/980-3410, or E-mail christiaan.hanson@iqpc.com.

Cities in the Third Millennium
Melbourne, Australia
February 26–March 2, 2001
The Sixth World Congress of the Council on Tall Buildings and Urban Habitat will feature more than 80 local and international speakers and a large exhibit. Call 613/9682 0244; or see www.icms.com.au/tbuh.

Urban Scan Viewer: The Architectural Visions of LOT/EK
New York City
February 8–March 2, 2001
An exhibition of a viewing apparatus built by the innovative firm of LOT/EK. The scan viewer reveals a melange of urban images and architectural work by LOT/EK. Gallery opening and lecture on *February 8.* At Parsons School of Design, Architecture Department. Contact 212/229-8955.

Competitions

NEA's Grants for New Public Works
Deadline for letters of interest: January 11, 2001
As part of an effort to invest in projects that promote livable communities, the NEA will fund a limited number of design competitions to stimulate excellence in design in the public realm. Though NEA is especially interested in landscape design, competitions include architecture, planning, graphics, and industrial design. Call 202/682-5452 or go to www.arts.gov.

The Borromini International Award for Architecture
Deadline: January 20, 2001
Sponsored by the city of Rome, the award is open to architects worldwide whose work has best interpreted the demands of the contemporary world and contributed to cultural growth. For information, see www.premioborromini.org.

Competition for Seaside Landmark
Deadline for entries: January 23, 2001
The Town of Seaside and the Seaside Institute are sponsoring a competition to design a landmark



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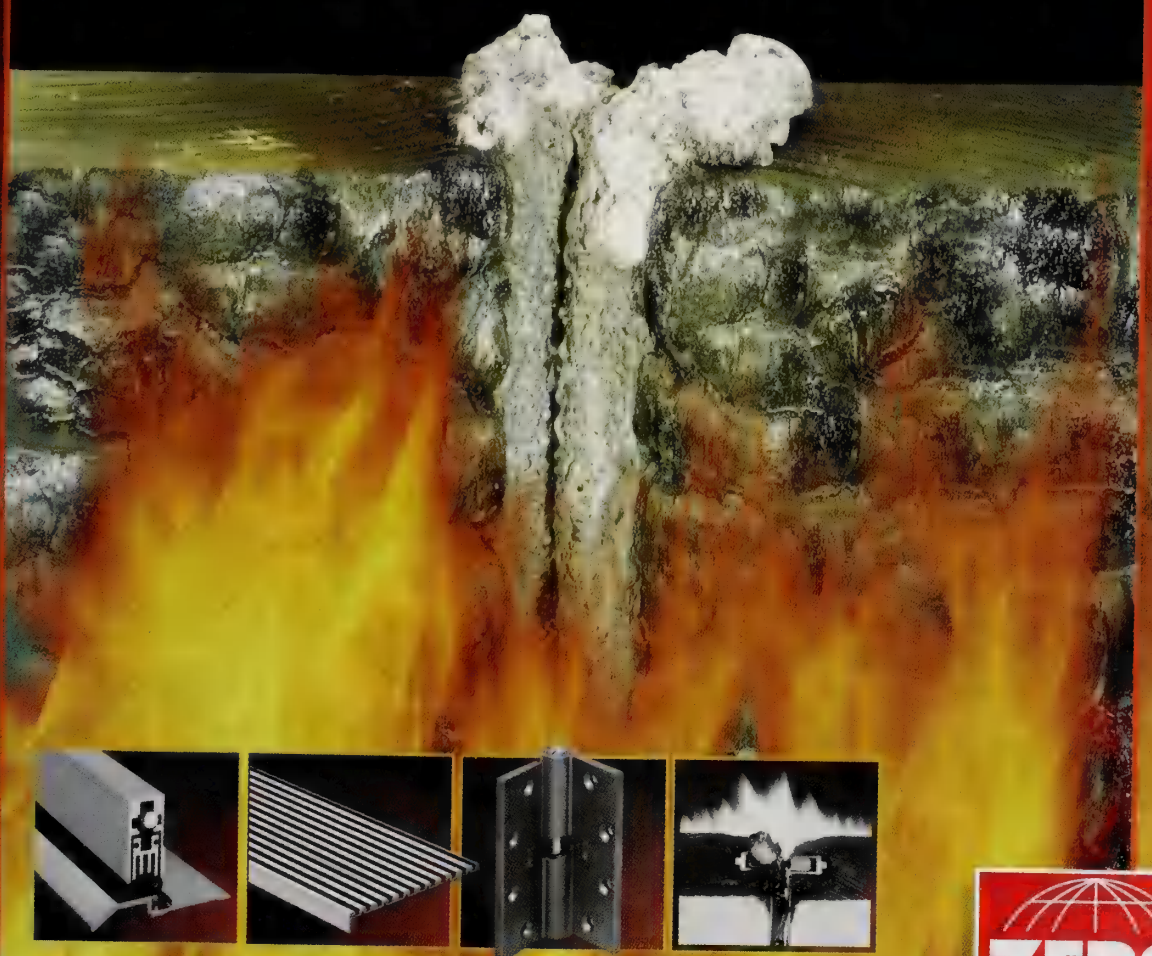
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Dates & Events

to greet visitors and commemorate the 20th anniversary of the community's founding. This idea-based competition is open to architects who have designed buildings at Seaside in the past, talented young architects, students of architecture, and even homeowners and children. For entry forms call 850/231-2226, or see www.seasidefl.com.

The 11th Annual James Beard Foundation Awards

Deadline for restaurant and graphic design entries: January 31, 2001

The award honors culinary-related talent, including restaurant designers of projects in the United States and Canada. Entry forms and rules can be obtained by faxing requests to 212/627-1064 or E-mailing jbfmoller@pipeline.com. Forms can be downloaded from jamesbeard.org.

Dupont Benedictus and ACSA Student Design Competition

Deadline for registration: February 1, 2001

Deadline for receipt of entries: March 8, 2001

This year, DuPont and the Association of Collegiate Schools of Architecture (ACSA) present the challenge of designing a multipurpose entertainment retail facility, while exploring the uses of laminated glass. For further information see www.acsa-arch.org, call 202/785-2324, or E-mail hbatliboi@acsa-arch.org.

The Chicago Athenaeum Fourth Annual American Architecture Awards

Deadline: February 1, 2001

The program considers a wide variety of architectural types of work built or unbuilt in the U.S. or abroad as of January 1, 1999. Contact Kristin Kaufman at 847/895-3950 or see www.chiathenaeum.org.

The ACSA Wood Products Council Carl E. Darrow Student Design Competition

Deadline for Registration: February 1, 2001

Open to third-year or higher B.A./B.S. students of architecture, B.Arch. or M.Arch. students, with a faculty sponsor. Submissions are to be principally the product of design studio work emphasizing the expressive use of wood. Call 202/785-2324 or see www.acsa-arch.org.

The Architectural League of New York, City Limits 2000–2001 Young Architects Forum

Deadline: February 14, 2001

Open to designers 10 years or less out of undergraduate or graduate school. Winners receive $1,000 cash prize, exhibit their work and present lectures during the spring at the League in New York City. For information call 212/753-1722 or see www.archleague.org

SEGD 2001 Design Awards Program

Deadline: January 29, 2001

The Society for Environmental Graphic Design honors signs and graphic design for office/workplace, transportation, urban/cityscape, exhibition design/museum, and other, environments. Contact Ann Makowski at 202/638-5555 or see segdoffice@aol.com.

The Second Annual Dryvit International Competition

Deadline: March 1, 2001

Commercial or residential buildings that feature a Dryvit exterior on a minimum of 75 percent of the project are eligible. The winner will receive a cash prize, and his or her work will be published in the July 2001 issue of RECORD. For information call 800/556-7752 or see www.dryvit.com.

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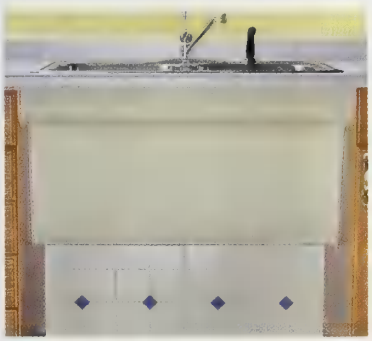
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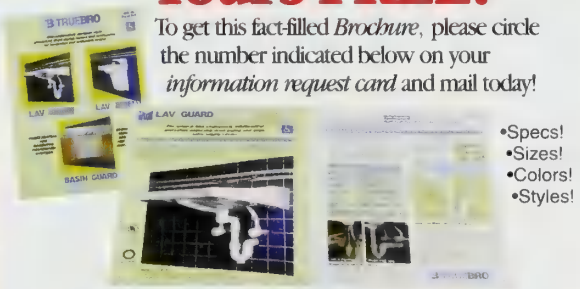




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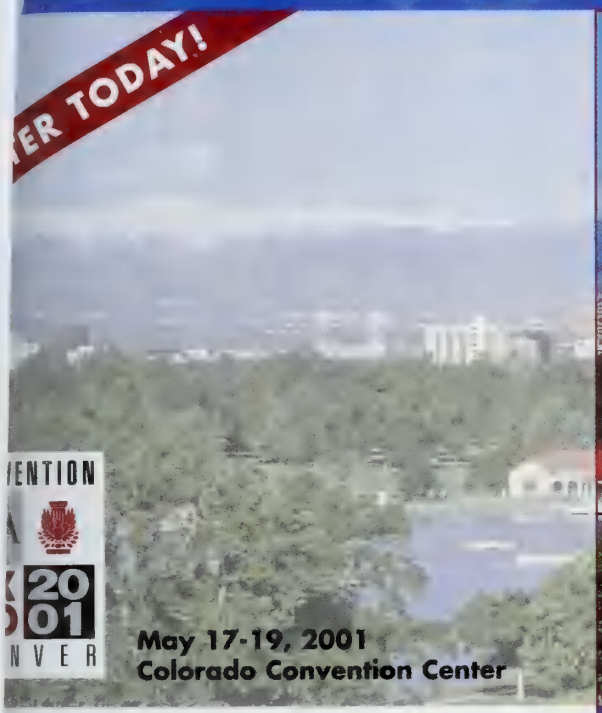
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2. Government and utility companies sponsored programs that encouraged the development and installation of photovoltaic products. These programs developed products that fit the needs of architects and lowered the price of the products, making them more competitive with traditional building materials. The result was more competitively priced photovoltaic-generated electricity. Furthermore, many public and corporate clients have come to recognize the positive educational and public-relations benefits that can be reaped from the new technology. Because BIPV products must be part of the building envelope to receive direct sunlight, this energy-efficient strategy is highly visible.

3. Photovoltaic-generated energy is produced as direct-current electricity. It can be used in that state, stored in a battery for use at a later date, or converted to alternating current by an inverter. Most commonly it is converted to alternating current and then used by the building. Excess electricity can be sold to the utility company, providing the quality and interconnection requirements are met.

4. To maximize the solar collection, panels must be oriented toward the sun. This will vary according to the latitude of the site, the amount of cloud coverage, and the season. For buildings in the United States, collector products should face south with a tilt of 10 to 15 degrees less than the site latitude. To maximize efficiency of the BIPV system, the panels should be situated to obtain the most power when the building has the greatest peak loads. Of course, they should be well maintained. Shade from trees and accumulated dirt will block sunlight and undermine panel efficiency.

5. The cost of electricity varies across the continental United States, so the cost-effectiveness of systems will differ according to region. Other considerations are the cost of the BIPV products and construction costs. Additionally, financial incentives from the federal government and some states offset the initial costs. The costs of BIPV systems are projected to decrease as utilities, insurance companies, and contractors become more familiar with the technology.

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☐ "Photovoltaic Technology Comes of Age" [page 121]

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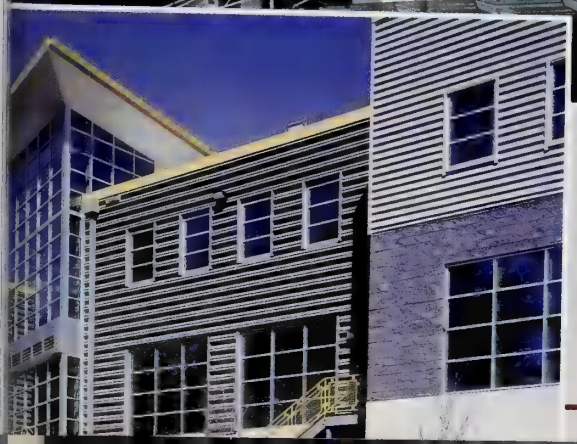
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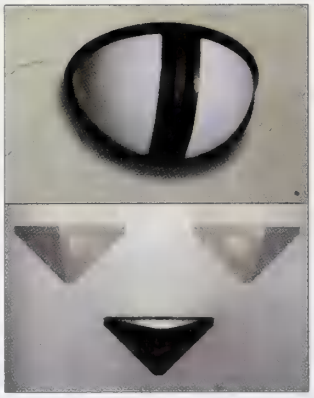


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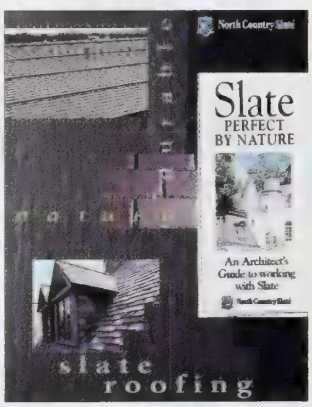


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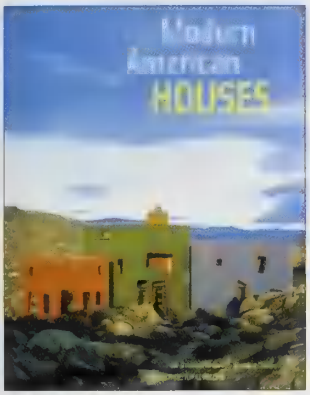
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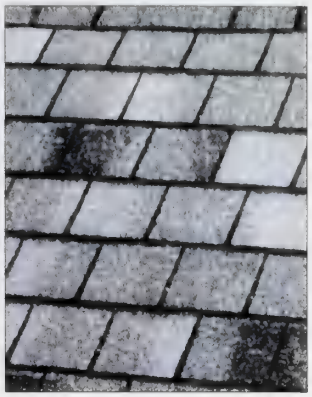


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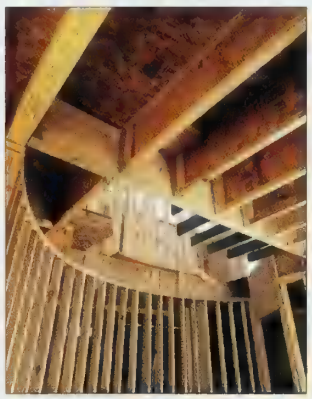


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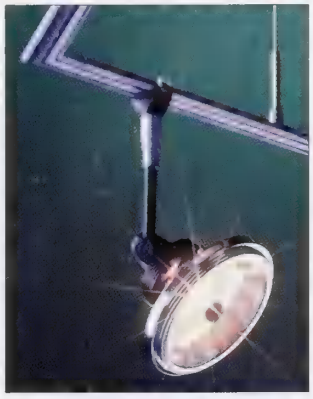


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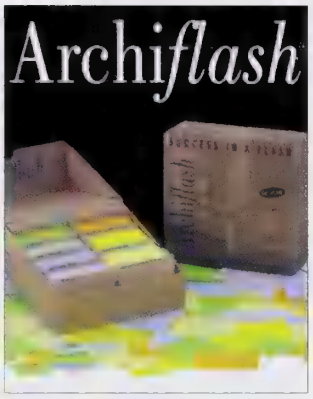


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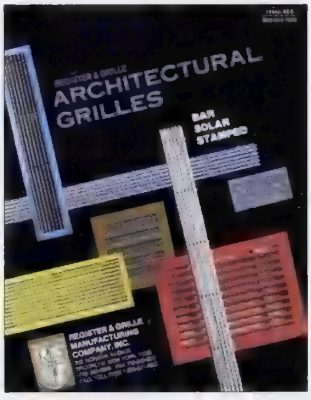


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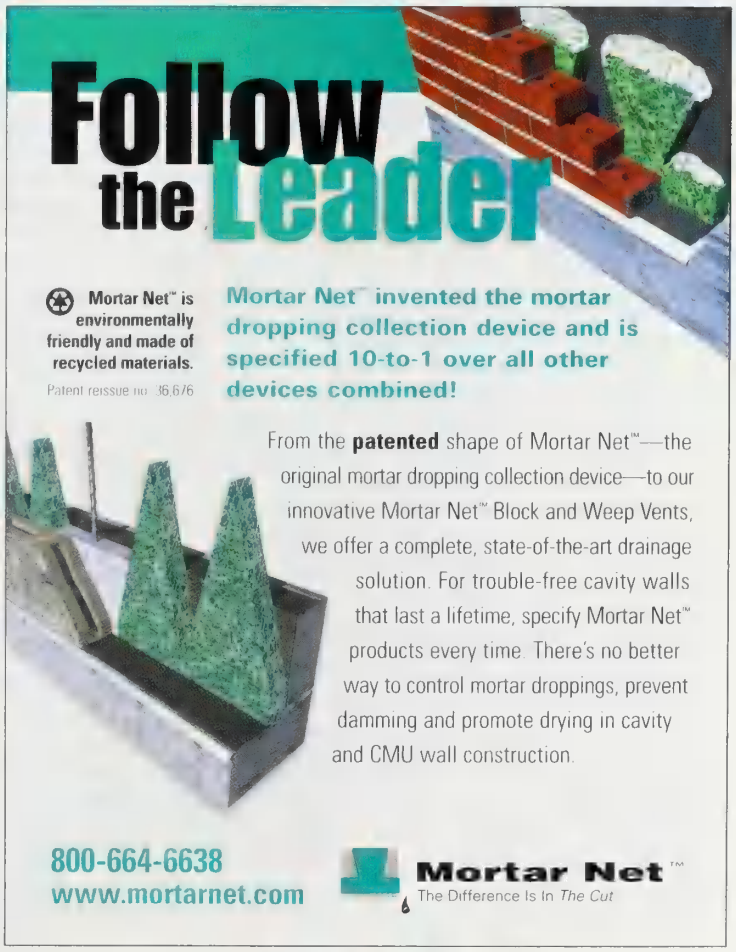
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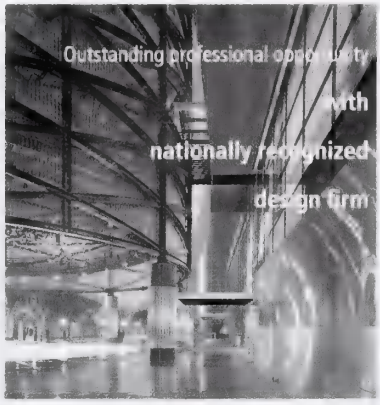
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The School of Architecture at Auburn University, Auburn, Alabama is seeking applications and nominations for the position of Head of the School of architecture. Auburn's School of Architecture is multi-disciplinary, having over 624 students enrolled in undergraduate programs in architecture and interior architecture, and graduate programs in landscape architecture and community planning. The Head of the School of Architecture works primarily with the Dean of the College of Architecture, Design, and Construction, as well as Department Heads for Building Science and Industrial Design. The Head is also responsible for interacting with 24 full-time and 6 part-time faculty members as well as the professional community. It is expected that a Head of the School of Architecture will provide vision and leadership to support the creative, professional, and scholarly environment; to encourage the integration of disciplines; to co-ordinate instruction, research, and outreach programs; and to pursue the recruitment of minority faculty and students. Minorities and women are encouraged to apply. Required Qualifications: A terminal degree in one of the School's disciplines; Recognized accomplishments in teaching; Recognized accomplishments in one or more of the following areas: practice, scholarship, research, outreach or professional service; Excellent communication skills; Evidence of administrative and budgeting experience. Preferred Qualifications: Professional licensure; University administrative experience. Interested individuals are invited to submit a letter of application addressing these qualifications, a resume, and names, addresses and telephone numbers of five references. Review of applications will begin on January 15, 2001, and will continue until an exceptional candidate is recommended for appointment. Appointment date is anticipated to be July 1, 2001. Please address applications to: School of Architecture Search Committee, Head, Attn: Ms. Maureen Deery, Assistant to the Dean, 202 Dudley Commons, Auburn University, AL 36849. Ph: 334-844-4526/Fax: 334-844-2735 Auburn University is an EEO/AAE employer.

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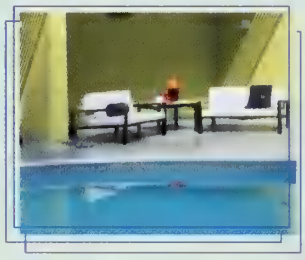
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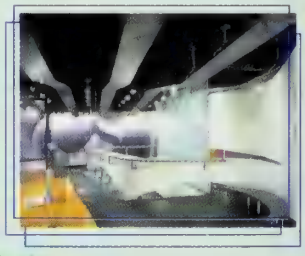
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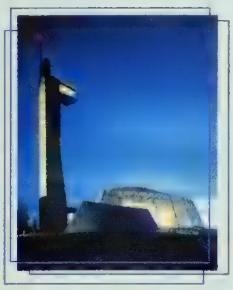
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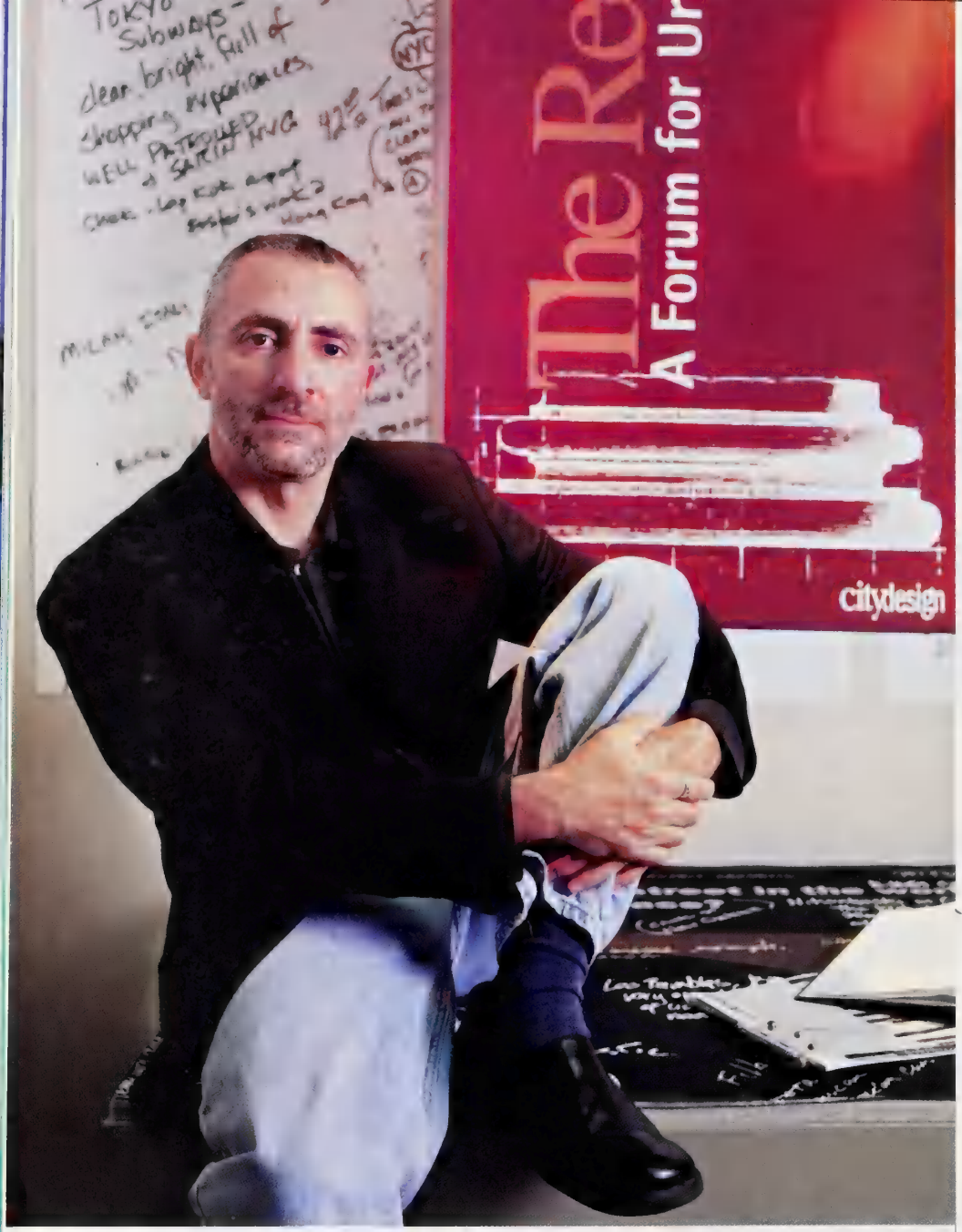
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John Rahaim: Seattle's latest rainmaker

Interviewed by Ingrid Whitehead

Within the last 20 years, Seattle has gone from small town to big city, and its leaders are not taking chances with the future of its urban design. In April 1999, Mayor Paul Schell and the City Council created a government arm called CityDesign—a division of the Department of Design, Construction and Land Use. They brought in John Rahaim, former associate director of Pittsburgh's Department of Design and Development, to serve as executive director. Rahaim also heads the Seattle Design Commission. As the lead design facilitator for the city, Rahaim, a trained architect, holds the keys to a booming and visionary kingdom that deserves to be watched.

Q: *CityDesign seems like a unique department of city government—it's not a city planning division, but a real design-oriented wing. How did it come about?* The genesis of my office came out of the Design Commission and the local AIA. It's a great statement about Seattle's values. There is a tremendous boom here, along with a huge influx of people to the region. CityDesign is a way to provide the city with design review and education, maintain a design vision, and, mostly, get people to convene and discuss. Part of our underlying mission is also to accommodate the growth and still be Seattle. The natural environment here is extraordinary. And it's a humanist place. Walkable. There's a wonderful collection of great urban neighborhoods. We want to keep all that and still grow. Also, to control population growth, Seattle, like Portland, has a growth-management boundary, which means that 93 percent of all construction happens within certain boundaries. So there are many challenges. The mayor, who is also a trained architect, put this department together to make sense of it all and establish relationships and dialogue between the various interested parties. Getting developers, architects, transportation people, utility people, and the community to get together and agree on things isn't easy, but that's what we do. It's a very "proactive" department, to use an overused word.

Gehry's EMP, as well as the library by Koolhaas, has received major media attention. What was the reaction to such big-ticket buildings from the people of Seattle? From local architects? There is tremendous interest in what is being built. When Koolhaas was chosen to design the new library, 1,700 people showed up at a public hearing. There was controversy among the design community about bringing in outside architects for these buildings, but there are many buildings being designed by local architects. It's a mix.

What public buildings are being designed now? Two new stadiums, a new city hall, an exhibition hall, a new symphony, an aquarium. Many neighborhoods are getting revitalized, funding for a new open-space strategy has recently been acquired, transportation strategies are being realized...it's amazing.

What's on your agenda for the city's growth? I'm personally concerned with keeping Seattle's "grit". There's a real industrial history here. I want to make sure we keep a working waterfront. It's part of the character of the city. And luckily, people in Seattle have open minds and a real yearning for good design.

Photograph by Benjamin Benschneider

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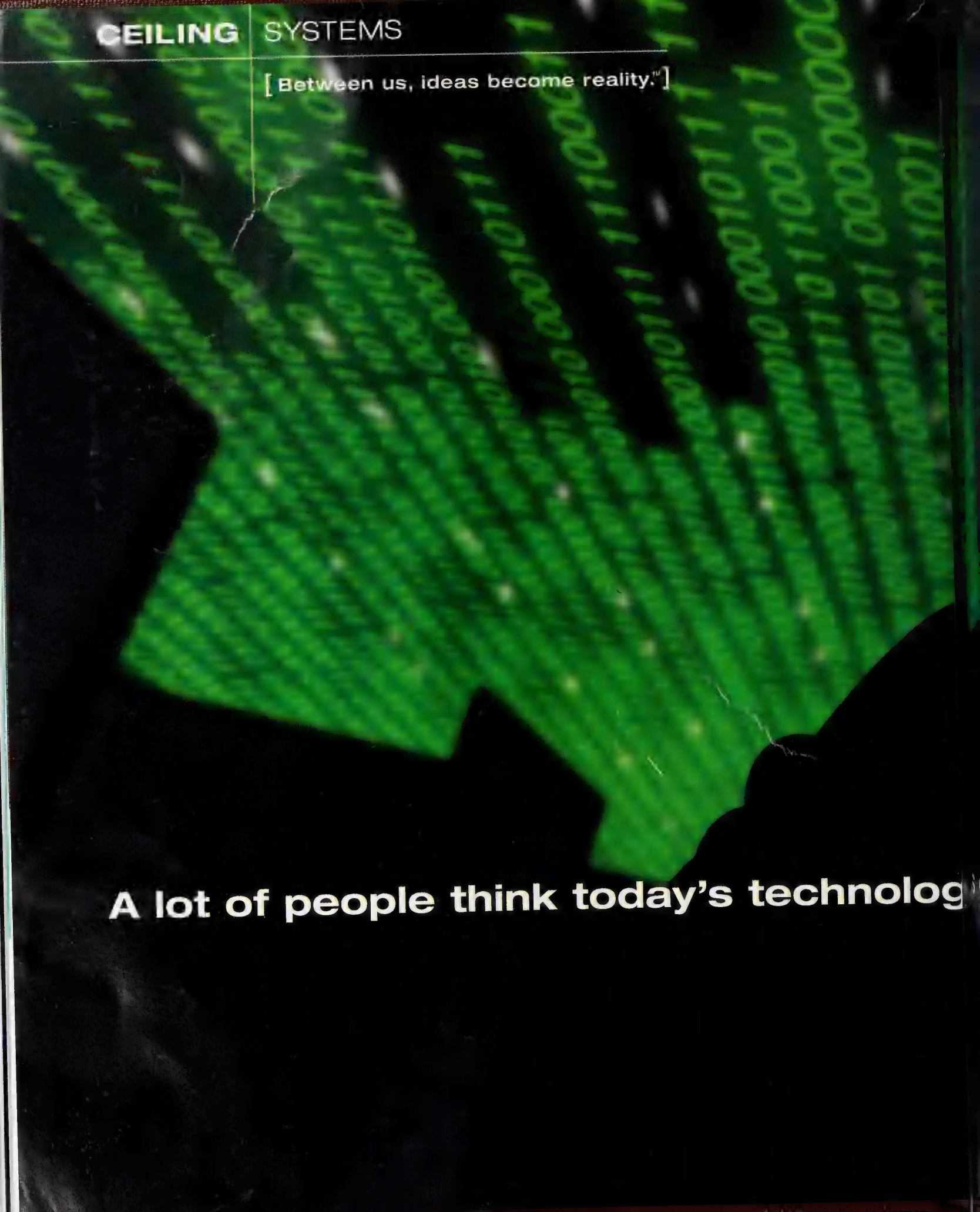
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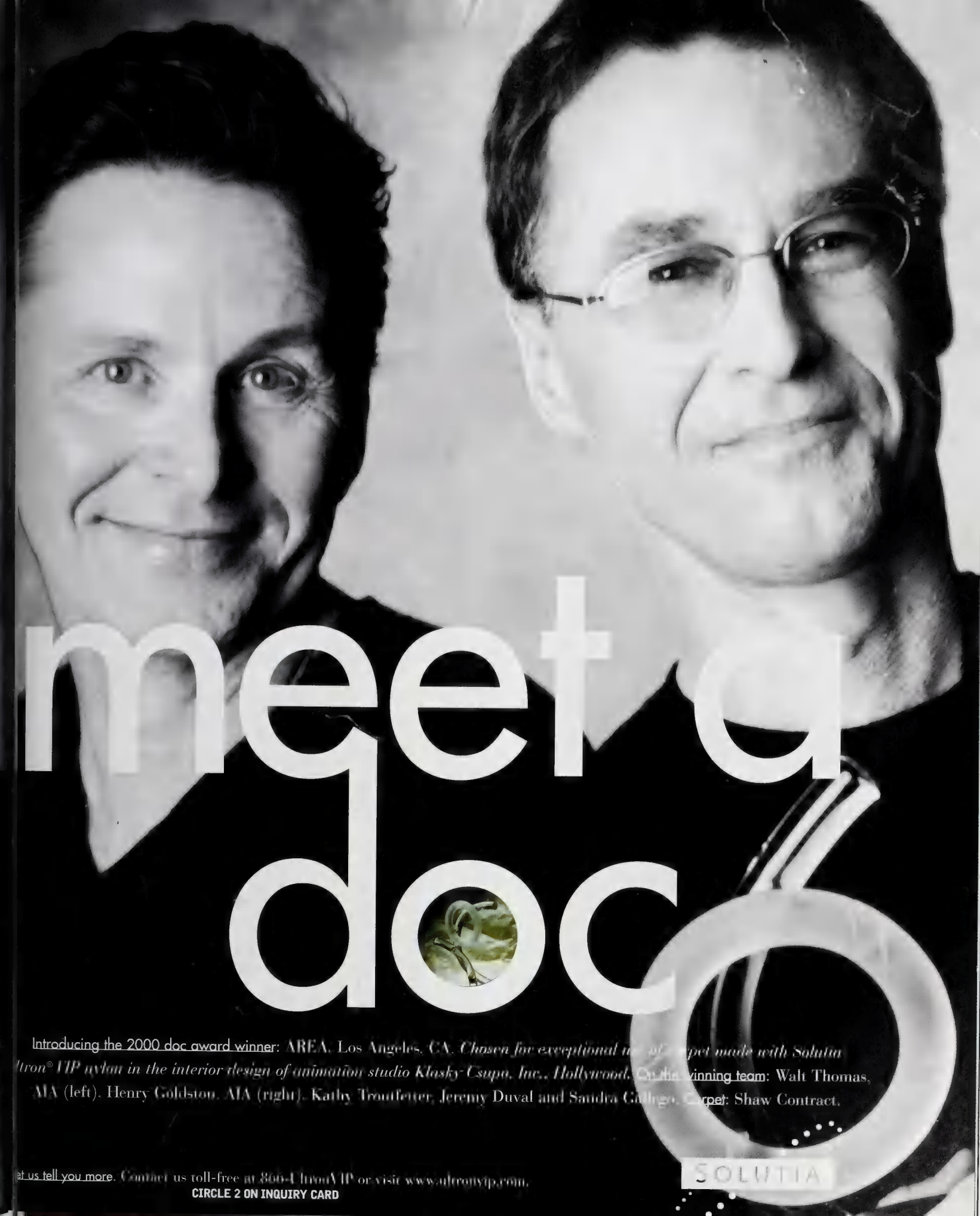
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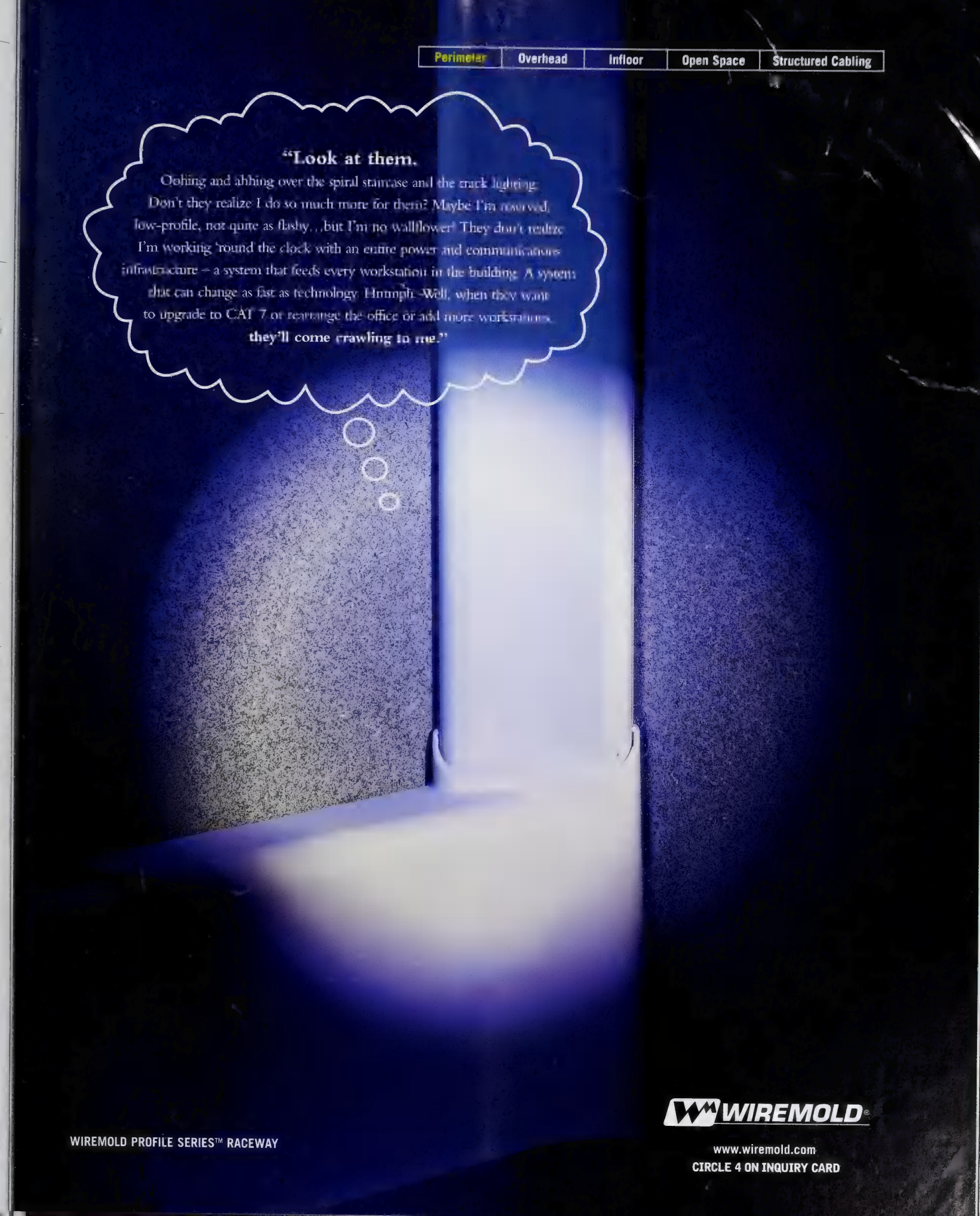
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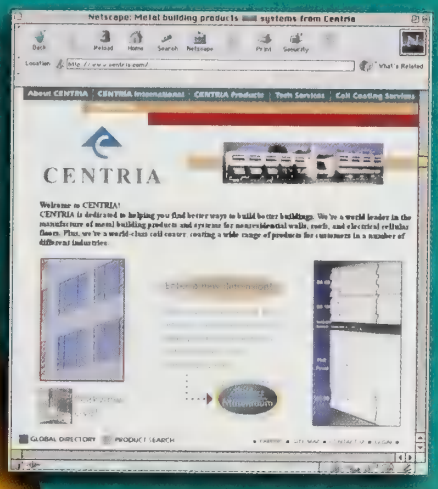


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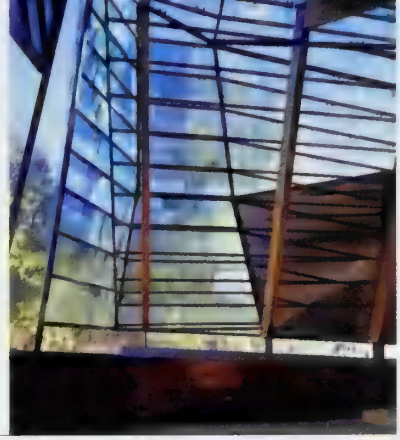
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On the Cover: *Keenan TowerHouse in Fayetteville, Ark. Photograph by Timothy Hursley*
Right: *Rural Studio's Masons Bend Community Center in Hale County, Ala. Photograph by Timothy Hursley*

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The AIA/ARCHITECTURAL RECORD Continuing-Education Opportunities *are* **"A New Era in School Construction Begins"** *[page 155], and* **"Architecture in the New Economy Matters"** *sponsored by Herman Miller, Milliken, and Bentley [page 166].*

WWW * You can find these stories at ***www.architecturalrecord.com***, including expanded coverage of the work of the six "Out There" architectural firms featured in our Project section this month.



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SEE TEN WEB-ONLY K-12 PROJECTS!






Looking for K-12 projects? You can go back to school in February's extended K-12 BTS section. Check out ten web only K-12 projects in addition to projects from *Record's* February BTS. Get descriptions, plans, specs, photos, links to people and products involved. Starting with the January 2001 issue, every month's BTS will have additional projects on the web.

DAILY NEWS

Get the latest scoops from the world of architecture.

FROM THE FIELD

Tune in regularly for the latest buzz from *Record* editors.

Weekly Departments

Mondays: *Architectural Record* ARCHives

Wednesdays: *Weekly Green features*

Fridays: Architectural Book & Media Reviews

Lighting

Lights! Action! Camera! See animations of "light bridges" designed by Thomas Emde in a German office building, and exclusive photos and video clips of the Tribeca Grand Hotel's dazzling, candle-like and projected interior lighting.

Digital Architect

Connect to related high tech resources through web-only IT Vendor Guides and software reviews with links to manufacturer web sites. Find current and past coverage. This month's column: **Self-Service Design Via the Internet.**

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Project Portfolio



Out There: Practicing Architecture Outside the Centers of Fashion. Six firms offer an intriguing look at where architecture is being done. Think of it as a scenic drive through God's country. Find additional web only projects, information and photos for February's thought-provoking feature.

Interviews




Tune in this month for audio excerpts from the AIA Chicago panel: "Where in the world is Chicago?" Moderated by Robert Ivy, featuring architecture critics Blair Kamin, Herbert Muschamp, Lee Bey and Robert Campbell, and the architects Jack Hartray, Helmut Jahn, Carol Ross Barney, and Joseph Valerio. Plus exclusive interviews with many other leading architects.

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CIRCLE 9 ON INQUIRY CARD



The Space Needle was a symbol of high tech – in 1962. Today, this classic landmark gets a 21st century makeover with an all-new Pavilion featuring some seriously high-tech glass: Solarban® 60 Solar Control Low-E Glass from PPG. Resembling a transparent nautilus encircling the base of the Space Needle, the Pavilion is a two-story glass structure that replaces the former reta ticketing and lobby facilities. Transparency was key. So th architect chose PPG Solarban 60 glass because it is specifica engineered to control solar heat gain and minimize coolin costs, yet does it with a clear, uncoated look. Solarban 6 glass doesn't make outstanding design suffer for efficienc In fact, a standard one-inch insulating glass unit Solarban 60/clear glass blocks approximately 60% of th

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CIRCLE 11 ON INQUIRY CARD



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To market, to market

Editorial

By Robert Ivy, FAIA

Not so very long ago, a group of architects gathered outside the boardroom of a community college. They chatted about the weather, coughed, and shuffled their feet as, one by one, they were called in to interview for a new dormitory. Tugging at his bow tie, one experienced fellow with little new work haughtily declared that this was his first interview—a comment that raised eyebrows and provoked commiseration about the rate of change. When a young designer, called in before the screening committee, hefted a Carousel projector into full view, ten jaws dropped. Architecture has never been the same since.

Although the slide projector remains, we've become much more savvy about marketing in the last 20 years. Think how the "gentleman's" profession has changed: RFPs, RFQs, newsletters, brochures, Web sites, digital presentations, increasing specialization. Not to mention the rise of the marketing professional, a subject that we take up with surprising results in a new series debuting in this issue (see "Marketing: The Unsung Heroine of Successful Architectural Practice," page 66).

Yet despite these advanced tools, we remain remarkably naïve about some elementary facts. Rarely trained to appreciate marketing in school, saddled with a negative perception of the discipline, many of us continue to believe that if we do a good enough job, then we will inevitably win honor awards, achieve publication, and attract clients. Lured by the laudable goal of achieving a repeat clientele, we may fail to realize that we have to earn that status, year after year. Too many of us could not define the differences between marketing, public relations, and sales.

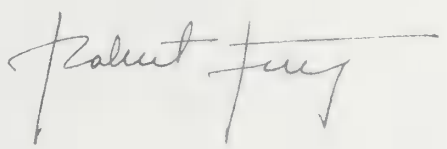
We often try too hard. With the best intentions, we bring our strong wills and specialized skills to the marketing arena, expecting that organization, analysis, and design finesse should be enough to win clients. We second-guess the people we hire, overedit their presentations, and won't let them go to do their work. But effort and all-nighters won't necessarily pay off in a more competitive world.

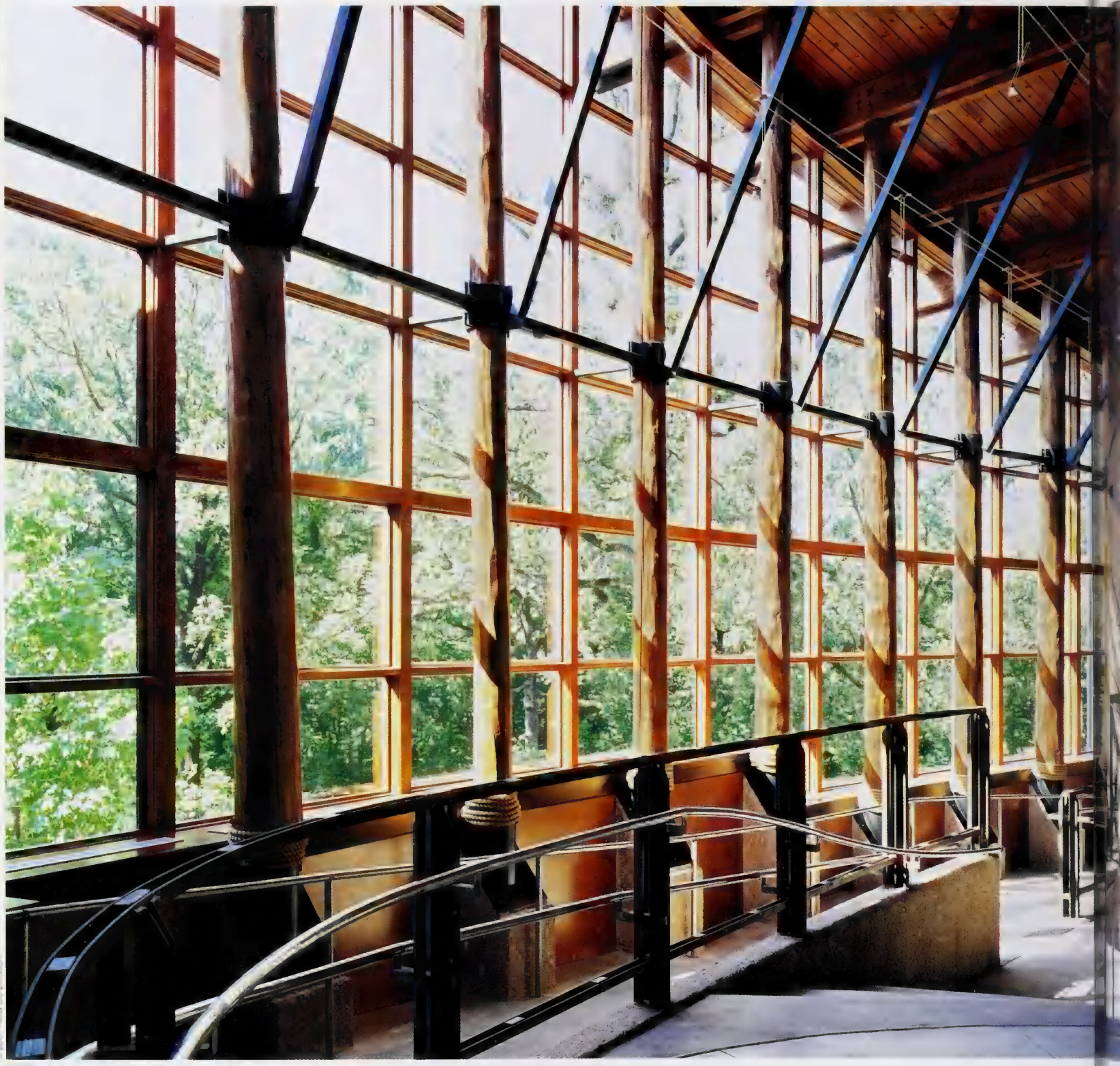
Certain firms and key individuals have been the exceptions. Arthur Gensler and Gene Kohn and Bob Hillier, architects who have built strong practices, are legendary for their marketing skills. Large multidisciplinary firms like DMJM and HOK know their own strengths, understand what their clients need, and make it their business to bring the two together. Alarmingly, so do large international consulting organizations, which directly compete for architectural commissions.

To the current generation of architects, large and small, here is a wake-up call: Our clients are increasingly sophisticated consumers. Software now allows grocers and big-box retailers, for example, to identify their customers' buying habits, precisely profiling their preferences and charting their purchasing patterns over time. By contrast, rather than listening to our customers, architects often push their own accomplishments out at clients, citing voluminous projects and awards, with little consideration for what the client is looking for—an arrogant and outdated attitude.

At a time when architects decry the public's lack of appreciation of our value, when we could improve the built environment in powerful ways, we need to learn how to sell. Confronted with clients who are bombarded with information and opportunities, we must take the first step in our marketing education by learning how to listen. Then when we speak, through any medium, our story should be powerful, directed, and effectively communicated.

What do our clients need? What can we offer them? Only by being able to answer those two questions, with great precision and force, will we continue to win the commissions we seek. Otherwise, like the generation that preceded us, we may find ourselves sitting outside, shuffling our feet, and tugging at our bow ties, waiting for a door that may never open. Obtaining work is the fundamental step toward making further choices: Get the job!





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CIRCLE 13 ON INQUIRY CARD

Letters

The city without walls

I was surprised by Alex Marshall's article in the December 2000 issue [Critique, page 57]. He believes cities are shaped by their dominant transportation systems. Talk about stating the obvious! Any geography textbook, such as *Geography: Realms, Regions, and Concepts*, by H. J. de Blij and Peter O. Muller [John Wiley & Sons, 2000], explains that very nicely. It also explains "the Recreational Automobile Era (1920–1945) . . . marked by the initial impact of cars and highways that steadily improved the accessibility of the outer metropolitan ring, thereby launching a wave of mass suburbanization that further extended the urban frontier." In other words, at the same time that New York City's marvelous subway system was being built, cars were filling the gaps between the lines as the "first" wave of automobile suburbs were built. Public transportation could get you into Manhattan and back out again, but for everything else, you needed a car. Anyone who sees the years before World War II as a car-free paradise is mistaken.

Likewise, his characterization of Europe seems off-kilter. Europeans may be buzzing around in high-speed trains, but they also brought us the autobahn, the Porsche, the Volkswagen, and the Volvo. In England, the motorways and major "A" roads have construction and traffic jams as nasty as anything seen in the States.

With all that as a given, it doesn't surprise me that his solution to our problems—stop building roads—also seems wrong. This would lead to the same problem faced in the 1920s: gaps between the lines, which something has to fill if people live and work there.

Could the future be one in which the cars and public transportation used for long, regular trips combine with shared cars used by both motorists and transit users (assuming they are still separate groups with no overlap) as an "in case" for short trips? What will cities look like if, instead of responding to one system, architects have to deal with three? I find the idea interesting, and more likely than a world where public transportation somehow supplants cars in "denser cities."

Then there is the question of how desirable density is to the people who live in cities. The *New York Times* has reported that with more people living, working, and vacationing in Manhattan, it is more crowded than at any time since the 1960s. Perhaps that is why Moshe Safdie wrote in *The City after the Automobile*, "Diverse environments and lifestyles require opportunities for choice," and "only a variety of great concentrations strongly and permanently joined with expansive areas of dispersal will create for us the . . . city we desire for our present and future." Safdie seems to recognize that while a hyper-dense downtown may be a nice place to visit, not everyone will want to live there.

—Michael J. Gallagher
Cortland, N.Y.

A personal touch

Thank you for the excellent article, "Challenges for the Digital Generation" [DECEMBER 2000, page 166]. There is one manifestation of the digital dynamic that wasn't mentioned in your piece, however, and that is the techno backlash inherent in most clients' demands. You reference the expansion of clients' expectations of what we can do technologically, but this is matched by similarly high demands for major amounts of personal touch in service delivery. This may well be one of the hobgoblins of the "established firm" that will just cling for a while, but it would appear to me that the true tipping point for such firms will only happen when the clients they seek give technological content as high a priority as emotional content in the design process—no matter what tech level it attains. I suspect this is as true now as it was in the heady days of the breakthrough of blueprinting, or the shift to the parallel edge, and will probably remain so. The staff with the highest rewards and responsibilities in design firms are those who check most of their tech skills at the door and work the human dynamic of sales, personal communication, and profitability to the max.

I look forward to the day when the PIC and the PC are more or less interchangeable. In the meantime, architects need to pay as much attention to the digitalization levels of their clientele as they do to the computerization of their profession.

—Chris Williams
Glastonbury, Conn.

Mind the gap

In your editorial titled "The Chasm" [DECEMBER 2000, page 21] you made reference to a seismic rift between the two generations of architects, which was heightened by digital technology. Fundamentally, I agree with your article but also believe there is an underlying erosion of the chasm, which is caused by the fact that developing architects do not have the proper knowledge of how buildings go together.

I believe we will always have a generation gap between those coming out of school and the veteran architects who have been through the trials of day-to-day experiences implementing projects. I came through school during the time when computers were just being incorporated as a design tool and saw the actual crossover from drawings on boards to drawings on computers. I think the crossover took significant time and investment of architects and firms, but this transition in technology has paid off by giving architects more time to put toward other aspects of the projects or the ability to take on more projects. But even through this technological transition there has always been, as you mentioned in your editorial, the old guard of architects who mentored the younger, developing architects by watching how they developed details and by helping them understand how those materials go together. This mentoring and education is vital to the existence of the architect and his/her status as "master builder." If we continue to rely on computers to understand how materials go together, then will not the computer and the contractor become the master builder and the architect become just the facilitator who places bits of information into the computer?

To realize a project, there needs to be some emphasis on understanding the business of architecture, the contractual relationships, the liability of what the contract documents say or show, and the way these aspects interact. The Construction Specifications Institute has taken a large step in helping developing architects understand these relationships through their certification programs. I hope that universities will look at this as a basis to begin an educational revival of the business of architecture, for it is the university's charge to prepare architectural students not only to design but also to implement the design.

—R. Todd Johnson, AIA
Director, Construction Contract Innovation Team (C2iT)
Little & Associates Architects
Charlotte

Letters

Riftless in the heartland

As a full-fledged member of the "techie" generation you described, I enjoyed your editorial on the "chasm" between the vellum/mylar generation and the digital generation [DECEMBER 2000, page 21]. I think that as technology changes and evolves more quickly these days, there is a real danger for young architects (and even some older architects) of getting too caught up in the latest tools for improving *how* we produce, at the expense of *what* we produce. Fortunately, the recent digital revolution has helped facilitate greater communication in both directions between computer-savvy young architects and their analog coworkers. This new dynamic should allow previously technophobic architects to creep into the 21st century while still passing on the insights of their experience to the latest technocentric generation. I hope this bridging of the "chasm" will keep us focused on what is important, our "love of making things, real or virtual, drawn or imagined or built."

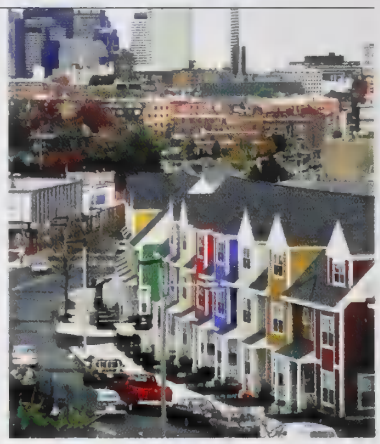
—Jonathan Taylor
Gastinger Walker Harden Architects
Kansas City, Mo.

Corrections

In our December 2000 article on the AIA/HUD Secretary's Housing and Community Design Awards 2000, Orchard Gardens, by Domenech Hicks & Krockmalnic Architects, and Vermont Village Plaza, by Solomon E.T.C. Architecture and Urban Design, appeared with their photos switched. At right are the correct photos and credits. In the November 2000 issue, the article about Autostadt [page 148] should have credited Alfredo Arribas as associate architects. Please E-mail letters to rivy@mcgraw-hill.com.



Project: *Vermont Village Plaza, Los Angeles*
Architect: *Solomon E.T.C. Architecture and Urban Design—Dan Solomon, FAIA (principal); Anne Torney (project architect); John Maloney (architect); Marcos Ancinas, Owen Kennerly, Thai Nguyen, Martha Marinez, Gabriel Ruspini, Jose Villegas, (project team)*
Contractor: *Windjammer Construction*
Landscape architect: *GLS Landscape*



Project: *Orchard Gardens, Roxbury, Mass.*
Architect: *Domenech Hicks & Krockmalnic Architects—Fernando J. Domenech, Jr., AIA, Alberto Cardenas, AIA, Marya Piasecki*
Client: *Madison-Trinity Ltd. Partnership, Adams-Orchard Ltd. Partnership, Boston Housing Authority*
Engineer: *Judith Nitsch Engineering (civil); Weidlinger Assoc. (structural); SAR Engineering (MEP)*



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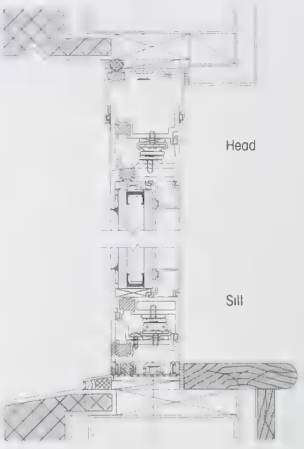


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Record News

Highlights Five compete in Pittsburgh p. 32
Pritzkers hire Foster p. 34
Yale restores A+A Building p. 36
Planning for D.C. monuments p. 40

Glassy, open Clinton Presidential Center to "put things in the light"

According to his architects, Clinton is extremely sharp and a quick study, has a strong interest in contemporary design, and believes that new buildings should contribute positively to their surroundings. After touring presidential libraries with his architects, James Polshek, FAIA, and Richard Olcott, FAIA, of the New York–based Polshek Partnership Architects, Bill Clinton had firm ideas about his own library. He envisions a vibrant place—accessible, highly visible, and mutable—that would contribute to Little Rock's effort to bring life to the long-ignored banks of the Arkansas River.

The design for the William J. Clinton Presidential Center, which will include the presidential library and archives, may be the antithesis of some of its peer facilities. For starters, there will be no monumental, hermetic structure with an "awe-inspiring space in which little happens," Olcott says. "Ironically, the president wanted to 'put things in the light.'"

Polshek Partnership designed an elevated, rectangular glass volume that projects over the riverbank. "Dark" spaces for the archives are mostly subterranean, so the center will read as a sleek glass box. The building's transparency and daylit spaces are designed to serve as very public invitations.

To help cool the structure, the design team turned to a Southern tradition: A contemporary version of a veranda wraps around the volume. Multifunction gathering spaces and large, open exhibit areas will also offer outdoor access. Even the exhibits will be a departure—they are slated to be interactive and nonlinear, and they will change over time.

The 27.7-acre site includes a new public park—a component that Clinton wanted from the outset. It's within walking distance of downtown, and the abandoned Rock Island Railroad Bridge will become a pedestrian path across the river. The site is expensive and difficult to develop, but Clinton avoided the suburban, stand-alone building approach. "He sees this as a living thing," Olcott says. "It was important to him that his base of operations be part of the city."

Groundbreaking is expected this year but will likely be delayed. Building costs have ballooned from initial estimates of $80 million to between $125 million and $150 million. The Clinton Foundation continues fund-raising.

Kira L. Gould



The Clinton Presidential Center will project over the Arkansas River.

LAND DISPUTE DELAYS CLINTON LIBRARY

A dispute over 2.9 of the 27.7 acres needed for the William J. Clinton Presidential Center has delayed the project. Real-estate developer Eugene Pfeifer III has been fighting Little Rock's effort to take his 2.9 acres through eminent domain. Pfeifer has claimed that the city cannot take property through eminent domain for a presidential library. Pfeifer has lost one court battle but is appealing.

A November 2000 ruling by Pulaski County Chancellor Vann Smith stated that Little Rock could seize Pfeifer's property through eminent domain and that Pfeifer needed to prove that there was "fraud, bad faith, or a gross abuse of discretion" when the city board approved the resolution to create the site. "The Court finds that an acceptable use of the park can include structures such as a library, educational facilities, archives, and other similar structures." The ruling allowed the project architects to move forward with final drawings. ***KLG and John E. Czarnecki, Assoc. AIA***



Anchoring a public park, the William J. Clinton Presidential Center will be near a pedestrian bridge over the river.

OFF THE RECORD

Whitney Museum adjunct curator [redacted] has announced that a [redacted] Heiduk retrospective show, *Sanctuaries*, is planned for this year at the Whitney.

One of the sisters in a new sitcom called *Three Sisters* has an architect husband. This prompted [redacted], TV critic for the *New York Post*, to write, "Another freaking architect! You would think by watching TV that there are so many architects working in America that we all should get one."

Robert [redacted], has been selected to design an $11 million educational and visitors center for the Mark Twain House in Hartford.

[redacted] Baldeweg has won a competition for the Canal Isabel II Theater in Madrid.

As of mid-January, Cornell University was considering seven firms for a building for its architecture department. The list was expected to be narrowed to four from the following: Peter Zumthor, MVRDV, Steven Holl, [redacted], and Enrique Norten).

A truck smashed and destroyed a 91-year-old iron-and-glass pergola, a national historic landmark, in Seattle's Pioneer Square on January 15. The Victorian-style structure was originally a cable car stop and entrance to an underground rest room. Restored in 1972, the pergola was designated a landmark in 1977.

Hayden Connell Architects has opened a Paris office. OWP&P has opened an office in Phoenix, its first outside of the Chicago area.

Three Rivers [redacted], home of the Pittsburgh Steelers and Pirates for three decades, is scheduled for an implosion on February 18.

Five compete for science center

The Carnegie Science Center has unveiled schemes by five competing architects for what it hopes will be "the magnetic symbol of the future of Pittsburgh." Designs by Peter Eisenman, Daniel Libeskind, Jean Nouvel, Bernard Tschumi, and UN Studio (Ben van Berkel) were made public in January for a $90 million addition to the existing Carnegie Science Center and a master plan for the surrounding 13 acres, which will include a Discovery Park. A winning architect for the 160,000-square-foot addition is expected to be chosen in early March.

Eisenman's design draws the river into the site through a tapered channel, and his addition nearly consumes the existing building.

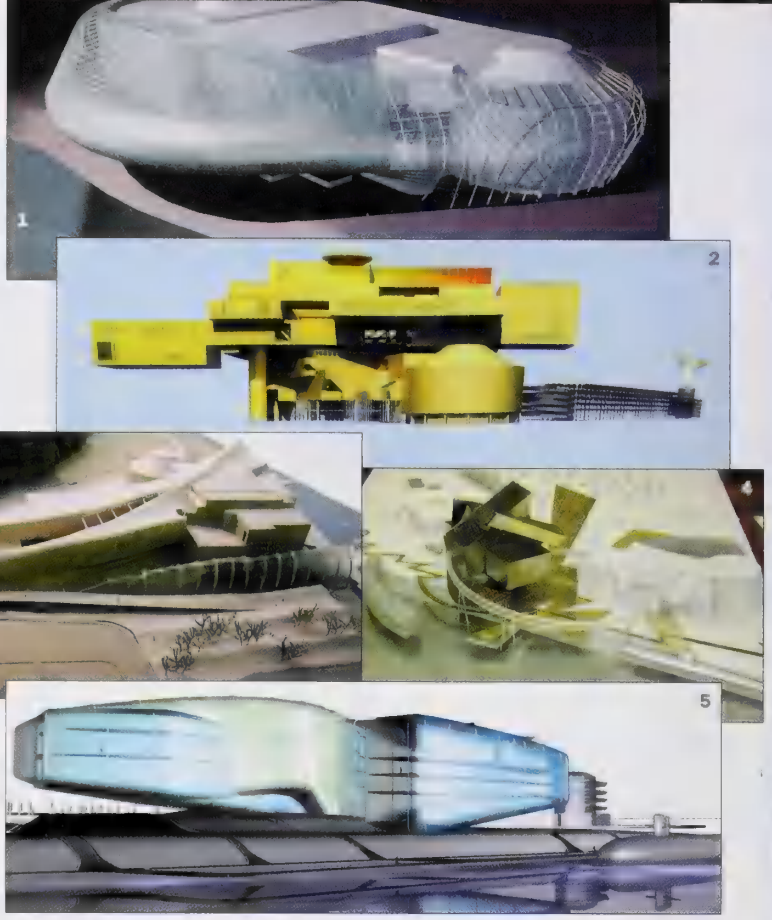
Libeskind calls his addition, which has intersecting glass and metal geometric volumes piled along the river edge, "Dynamix."

Built primarily on top of the existing building, Nouvel's design has rectangular stacked volumes, including a portion that cantilevers over the river.

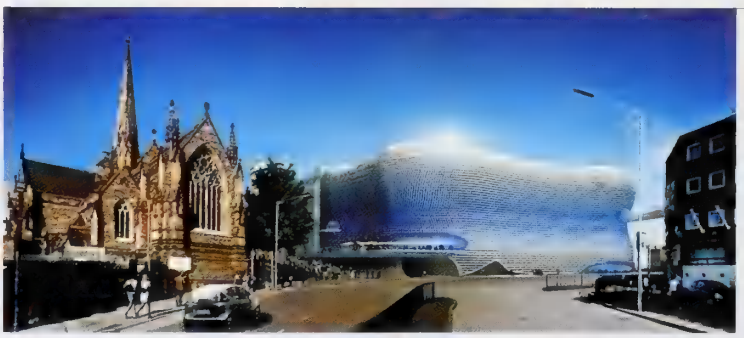
Tschumi calls his blob that wraps around the existing museum "a smooth polished metal shape . . . as if from outer space."

The cantilevered structure by van Berkel, clad in blue, green, and yellow glass, is intended to be symbolic of how "science liberates."

For more information, visit www.carnegiesciencecenter.org. *JEC*



Carnegie Science Center proposals by Bernard Tschumi (1), Jean Nouvel (2), Peter Eisenman (3), Daniel Libeskind (4), and Ben van Berkel (5).



Selfridges store to land in Birmingham

The innovative, curvaceous form of the Future Systems–designed Selfridges department store in Birmingham, England, promises to be a leap forward in the often drab world of retail architecture. Birmingham Selfridges has received planning permission, despite opposition from local conservation groups, such as the Victorian Society, and is due to open in fall 2003.

The store will include beauty, fashion, and home departments, as well as food halls on four floors; it will be clad in thousands of colored ceramic tiles. The futuristic element of this shimmering skin, which appears inflated against the building's bulbous shape, is integral to the scheme's appeal. The decision to opt for such a witty design is in keeping with the visionary business strategy of the store's American founder, Harry Gordon Selfridge, who sought to combine shopping with entertainment.

The 250,000-square-foot Future Systems project is part of a $60 million investment by Selfridges for Birmingham regeneration, which includes renovation of the adjacent Bull Ring shopping center. Future Systems has designed public spaces that will link the store with its surroundings, and the store itself will be a public gathering space with restaurants and cafes. *Laura Iloniemi*

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CIRCLE 18 ON INQUIRY CARD

OFF THE RECORD

The University of Minnesota is in a "quiet" fund-raising stage for an addition by [illegible], to his Weisman Museum on campus.

[illegible] is in interesting company on the cover of the December 2000 issue of *Los Angeles* magazine, which featured 40 figures who embody the L.A. of the last 40 years, including Dr. Dre, E.T., Charles Manson, and the Aris glove that did not fit.

The $1.2 billion Mill[illegible] [DECEMBER 1999, page 78; NOVEMBER 2000, page 40] closed on New Year's Eve. The dome and surrounding land will be sold for new development.

Montreal-based firm [illegible] Barrott[illegible] has been selected to design a home for the Perimeter Institute for Theoretical Physics in Waterloo, Ontario. The building will open in 2002.

RoT[illegible] Architects of Los Angeles, in collaboration with Studio [illegible] of Boulder, has been chosen for the 20,000-square-foot Museo de las Americas building in Denver. Construction begins this spring.

HOK is designing the $21 million National History Museum of the Adirondacks in Tupper Lake, N.Y.

The team of Arup, architect Llewelyn Davies, and Speedwing has won a competition for a new terminal at Chongqing Jiangbei International Airport in China. The $300 million terminal project will begin this spring.

From a pool of 16 firms, three finalists—Ba[illegible] Myers Associates, Skidmore, Owings & Merrill, and van Dijk Pace Westlake [illegible]—were selected for a $35 million visual and performing arts center in Tempe, Ariz.

Lohan Associates will design a $190 million skyscraper, at least 40 stories tall, in Chicago for Buck Co.

Friends work to save High Line structure

A new nonprofit group called Friends of the High Line has a plan to turn an abandoned 1930s elevated rail platform in Manhattan's Chelsea District into a 1.3-mile pedestrian promenade. Under current Rails-to-Trails legislation, the group proposes an adaptive reuse of the platform for a public walkway that would afford unique views of New York as well as commercial space.

The 30-foot-wide High Line was originally built to carry freight from the rail yards near 34th Street south to and through warehouses. It operated until 1980.

The Friends' plan is modeled after Paris' popular Promenade Plantée, a converted rail line with landscaped public gardens and artisans' shops that "puts us all to shame," says Hugh Hardy, FAIA, a Friends member and principal of Hardy Holzman Pfeiffer Architects. "It would be absurd not to use this extraordinary resource. Once it deteriorates to the point of having to be rebuilt, then it's too late."

New York City, however, does not agree, citing safety issues and exorbitant costs as significant obstacles to reuse of the line.





The High Line was built to carry freight from the rail yards (above) in Manhattan to warehouse buildings (left). Out of operation since 1980, the elevated platform offers superb views of city.

Several owners of easements along the High Line have been lobbying to dismantle the structure for almost a decade, and they say they are nearing an agreement to share the costs of demolishing the platform, currently owned by CSX Corporation.

Nevertheless, a number of high-profile arts-and-entertainment figures, including actors Kevin Bacon and Kyra Sedgwick, fashion designer Todd Oldham, and architects Richard Meier, FAIA, Steven Holl, AIA, and James Polshek, FAIA, have expressed their advocacy for the promenade plan. In another show of support, the nonprofit Design Trust for Public Space announced that it has selected the Friends as a 2001 project partner. As a result, the trust will provide the funding and professional design leadership needed to determine both the positives and the pitfalls of saving the structure.

The trust usually works only with groups that have clear control of the spaces they seek to improve. In this case, says Andrea Woodner, codirector of the trust, "We were convinced by the strength of their voice, their credentials, and their lobbying position that there was a good likelihood that implementation will take place."

Jessica Dheere

Pritzkers hire Lord Norman Foster for 60-story Chicago tower

Pritzker Prize–winning architect Lord Norman Foster has been hired by the billionaire Pritzker family to design a 60-story office tower in downtown Chicago. The skyscraper will be anchored by the headquarters of the Pritzkers' hotel company, Hyatt Corporation, and the Pritzker Organization.

This will be Foster's first building in Chicago. No drawings have been unveiled. Construction is expected to start before the end of 2001, with completion scheduled for summer 2004. The $350 million Chicago project is being co-developed by the Pritzker-backed Higgins Development Partners LLC and another Chicago developer, the Prime Group Realty Trust. Chicago-based Hyatt Corp. will lease one-third of the office space in the 1.2-million-square-foot tower, which will replace a parking lot at the northeast corner of Wacker Drive and Monroe Streets.

With the selection of Foster, four Pritzker Prize–winning architects now have projects under way in Chicago. Frank Gehry, FAIA, has designed a band shell, concert seating area, and pedestrian bridge for Lakefront Millennium Park along the downtown shoreline; Rem Koolhaas' scheme for a campus center at the Illinois Institute of Technology has been unveiled; and Renzo Piano is working on an Art Institute of Chicago expansion that has yet to be unveiled.

The Foster project also raises the possibility that Chicago's construction boom finally will produce a building worthy of the city's vaunted tradition of innovation. "We are thrilled about the prospect of developing a cutting-edge office tower in Chicago," said Penny Pritzker, president of Pritzker Realty Group. ***Blair Kamin***



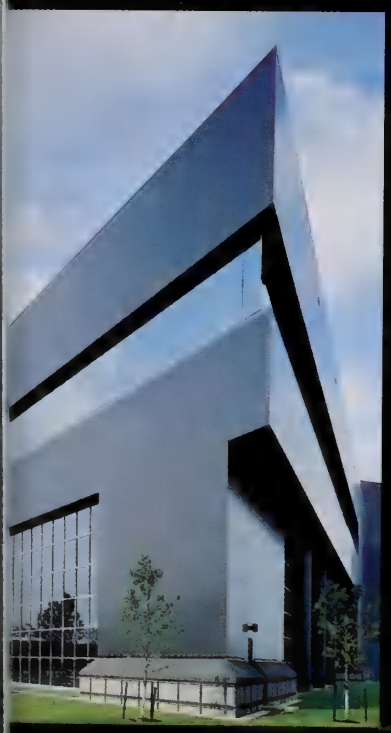


A Panel Discussion

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CIRCLE 19 ON INQUIRY CARD



Restoration of Rudolph's Yale A + A Building to honor original plan and corduroy walls

The Art + Architecture Building at Yale University, Paul Rudolph's controversial 1963 masterwork, is poised for a major reappraisal. An architect will be selected within months to restore the building to its original state, after more than 30 years of ill-conceived modifications.

"The A + A was the Guggenheim Bilbao of its day," says Robert A.M. Stern, FAIA, dean of the Yale School of Architecture, himself a 1965 graduate of the school when Rudolph was dean. "It was one of the most examined and debated Modern buildings of the early 1960s, a point of pilgrimage for architects. But after many interventions over the years, it's become a lost treasure."

Since its debut, the A+A has prompted polarized opinions in the architectural community. Featuring an imposing Brutalist concrete facade, ridged concrete "corduroy" walls, 37 level changes within seven stories, and balconies pinwheeling around two double-height open spaces, the building was hailed for pointing toward a new direction for Modernism, while also reviled for impractical spaces that seemed insensitive to student needs. In 1969 a fire gutted the interior, and later alterations inserted a warren of rooms and additional floors, obscuring the original design. Last summer, an interim restoration offered glimpses of a Rudolph revival. The double-height gallery and studios were returned to their original scale and finishes.

The three-year restoration, beginning this year, will be funded by a $20 million gift from Sid R. Bass, the Texas billionaire and 1965 Yale graduate, who commissioned a residence and two office buildings from Rudolph. Besides reclaiming Rudolph's original design, the Yale project will also overhaul the mechanical system, convert a penthouse into an entertainment venue, and include an expansion to the north of the A + A building.

The work is part of a decade-long, $250 million master plan by Polshek Partnership Architects, to enlarge and refurbish the Yale arts area complex. The art school's new Holcombe T. Green Jr. Hall, designed by Deborah Berke, opened last fall. A new building to house the art history department, arts library, and digital media center will be part of the expansion. *William Weathersby, Jr.*



The interior in 1963 (left) of Yale's Art + Architecture Building (above) will be restored to Paul Rudolph's design.

AIA announces winners for Collaborative Achievement, Kemper, Jefferson, and Young Awards

The American Institute of Architects (AIA) announced, on January 25, the 2001 recipients of four awards—Institute Honors for Collaborative Achievement, Edward C. Kemper Award, Thomas Jefferson Award for Public Architecture, and the Whitney M. Young Jr. Award.

Vernon L. Mays, Jr., and John R. Stilgoe both won the Institute Honors for Collaborative Achievement for their writing and scholarship. The Institute Honors for Collaborative Achievement recognizes distinguished achievements of allied professions, clients, organizations, and others who have advanced the architectural profession or had a beneficial influence. For the past 10 years Mays has been editor of *Inform* magazine, published by the Virginia Society of the AIA, and has written for a number of national publications. Stilgoe, the Robert and Lois Orchard Professor of the History of Landscape at Harvard University, teaches the history of the built environment that is not shaped by design professionals.

Charles Harper, FAIA, of Wichita Falls, Tex., was named recipient of the Edward C. Kemper Award, which honors an architect who has contributed significantly to the profession through service to the AIA. Harper has been a leader in the AIA's Regional and Urban Design Committee and in numerous disaster-relief efforts. He has assisted in disaster recovery and advocated better and smarter approaches to rebuilding after the wildfires in Los Alamos, N.M. (2000), hurricanes in the U.S. Virgin Islands (1998) and Dade County, Fla. (1998), and the oil spill near Valdez, Alaska (1990).

Recipients of the Thomas Jefferson Awards for Public Architecture are Terrel M. Emmons, FAIA, and Stroud Watson. Emmons was honored in the category for public-sector architects who manage or produce quality design within their agencies, and Watson won in the category for public officials or other individuals who have furthered the public's awareness and/or appreciation of design excellence. Emmons is the associate director for professional services at the National Park Service Headquarters, and he recently served as chief architect and associate director for engineering for the Naval Facilities Engineering Command. Watson is an architecture professor at the University of Tennessee and director of Riverfront/Downtown Planning & Design Center in Chattanooga, Tenn. Under his leadership, the center provides design guidance and coordination for public and private urban projects.

The Whitney M. Young Jr. Award honors an architect or related organization that has significantly contributed to social responsibility. Young challenged architects to assume professional responsibility with regard to current social issues. This year's recipient of the award, Cecil A. Alexander, FAIA, has promoted stronger race relations in Atlanta. Alexander was co-founder, with Young, of Resurgens Atlanta, a group of civic and business leaders dedicated to improving race relations. For 38 years, Alexander was principal with Finch, Alexander, Barnes, Rothschild, and Paschal, and he is now with Alexander-Weiner Architects. *JEC*

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All in the family for $83 million Safdie design of Roosevelt College at UC-San Diego

While growing up, Taal Safdie enjoyed visiting the architecture firm of her father, Moshe Safdie, FAIA. Little did she know that the two of them, and her future husband, Ricardo Rabines, would one day collaborate professionally.

Together, Taal, Moshe, and Ricardo are designers of Eleanor Roosevelt College at the University of California, San Diego—the largest single construction project in UCSD's history, both in funding and



Moshe Safdie, FAIA (left), his daughter Taal Safdie (center), and son-in-law Ricardo Rabines (right) collaborated on Roosevelt College.

footage. Not only did Roosevelt College make history at UCSD, it also marked the first time the Safdies worked together on a building project.

Construction on the $83 million project began in November after a two-year design process and will be complete in 2002. Moshe Safdie and Associates of Boston is the architect of record for the project, while Taal and Ricardo's firm, Safdie Rabines Architects, of San Diego, is the associate architect.

The college's buildings will be clad primarily in stucco and glass. The design includes a dining hall and the International House, both of which will feature glass walls, concave roofs, and exposed, curved wooden ceiling beams.

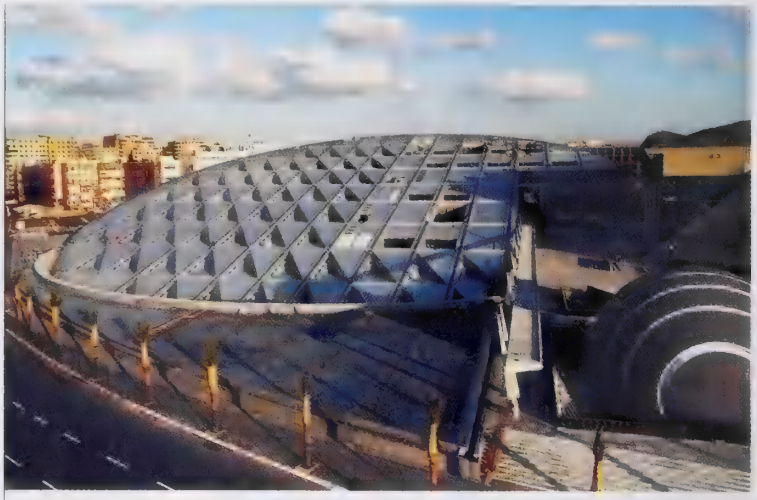
The buildings open up to terraces with views of the ocean, which is also visible from all the apartment and residence-hall terraces. "The campus feels like a garden—everything is surrounded by gardens, patios, and lots of courtyards," Taal Safdie says.

A major design challenge was unifying the 11-acre site that is split in two segments by a road. "We adopted various strategies to create a sense of college, one of which is having a large green space in the tradition of Harvard Yard," Moshe Safdie says. Buildings surround the green, making it the heart of the campus.

As for family relations, everyone is happy about this collaboration. As Taal Safdie says, "It worked out great."

Rabines considers the timing perfect: "It was the right project at the right time." And Moshe Safdie sums it up: "It's worked out beautifully. We all enjoyed working together." *Susan R. Bleznick*

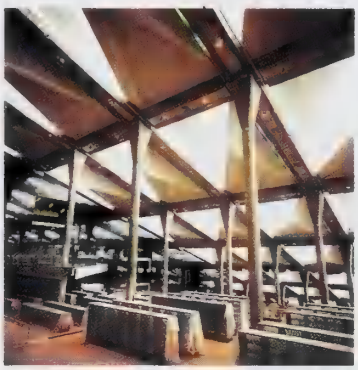




Bibliotheca Alexandrina, the largest library in the Mideast, nears completion in Egypt

Hieroglyph meets microchip in the design of Egypt's grand new temple of learning, the Bibliotheca Alexandrina. When it opens in Alexandria this spring, it will be the largest library in the Middle East and one of the largest in the world, with room for 4 million books.

The library stands on a site overlooking the Mediterranean



The interior (above) of the Bibliotheca Alexandrina (top) in Egypt.

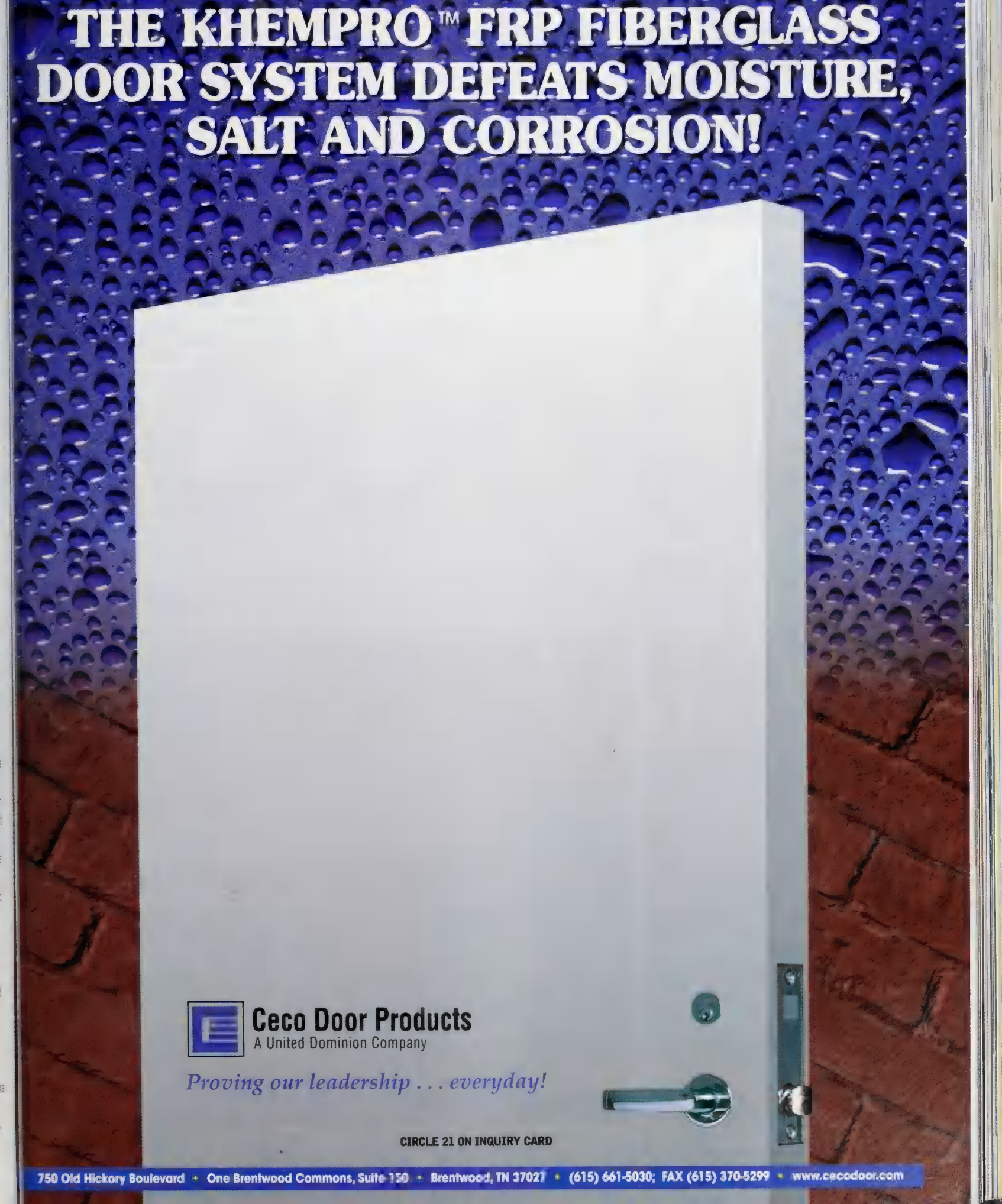
where part of the famed Library of Alexandria is said to have stood. According to legend, the old library contained all the knowledge of the ancient world and was where scholars calculated the Earth's circumference.

The new library was designed by the Norwegian firm Snöhetta, which won a competition of 524 entries. The building is an 11-story elliptical cylinder, half of which is below ground. The $200 million project ($30 million over budget) was 10 years in the planning and is now two years behind schedule. Its most striking feature is a circular roof, tilted at a 16-degree angle and sweeping from 33 feet below grade to 105 feet above ground. The roof, made of modular elements clad in anodized aluminum, takes its inspiration from the microchip. Alphabets from ancient and modern civilizations, including hieroglyphs, are etched into the walls' two-ton granite blocks, recalling Egypt's ancient monuments. A partly submerged sphere on the edge of the entrance plaza houses a planetarium and science center, linked to the library by a pedestrian bridge.

At more than 800,000 square feet, the library is Snöhetta's largest project in size and "in terms of cultural impact and political complexity," says Snöhetta architect Craig Dykers. It is also the firm's first experience with double-curved, color-impregnated, precast concrete panels. Hamza Associates of Egypt is Snöhetta's partner on this project.

The United Nations Educational, Scientific, and Cultural Organization and several countries have contributed to this Egyptian government project and have pledged assistance in providing books and equipment. Approximately two-thirds of the books will be purchased and the rest donated. Although the library will be large, its collection will pale in comparison to the U.S. Library of Congress' 18 million books. *Esther Hecht*

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CIRCLE 22 ON INQUIRY CARD

Plan outlines where to place D.C. memorials and museums

Recent debate over the design and placement of the World War II Memorial in Washington, D.C., illustrated how contentious proposals for building on the Mall can be. Since 1791, 154 memorials and 74 museums have been built in the capital and nearby northern Virginia. In December, a federal task force unveiled a draft Memorials and Museums Master Plan that recommends sites for the placement of the next 102 memorials and monuments in Washington, D.C. Most of the recommended sites are dispersed through the city, away from the Mall.

The plan, which will now be finalized (a public comment period closed on January 31), prescribes 19 "prime sites" for the most significant structures. Eighty-three additional sites are identified along primary corridors throughout city neighborhoods that rarely benefit from tourist dollars. The task force—comprised of members of the National Capital Planning Commission (NCPC), the Fine Arts Commission, and the National Capital Memorial Commission—chose 94 public and 8 private sites for their symbolic and visual importance after reviewing an initial 402 locations.

A "no-build" zone called the Reserve is recommended to protect open space on the Mall, from the Capitol to the Lincoln Memorial. "We were responding to pressure for commemorative works on the Mall," said Margaret G. Vanderhyde, chair of the Joint Task Force on Memorials. "For the Reserve, we're saying 'no more.' That's essentially a completed work of art."

The Potomac and Anacostia Rivers provide a framework for the plan, which attempts to reconnect Washingtonians and visitors to the underused riverfronts. About one-third of the sites are located along the U-shaped "Waterfront Crescent" formed by the rivers. "That we haven't engaged the waterfront is just a crime," said Michael Winstanley, AIA, design director for Leo A. Daly, the architectural firm that prepared the plan for the task force.

The plan reinforces L'Enfant's 1791 plan of grand avenues and the McMillan Commission's 1901 plan, which created the Mall's sweeping green lawn and the expansive greensward linking it to the Potomac River.

Visit www.ncpc.gov for more information on the plan and recommended sites. *Barbara J. Saffir*



Many of the proposed memorial and museum sites are along major streets (yellow) or the rivers (blue).

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CIRCLE 39 ON INQUIRY CARD

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CIRCLE 24 ON INQUIRY CARD



Court decision: Victory for developers and environmental destruction?

A U.S. Supreme Court decision limiting the federal Clean Water Act will likely clear the way for development of once-protected land.

In a January 9 decision, the court ruled that the Clean Water Act does not authorize the federal government to regulate the dredging and filling of isolated ponds and wetlands not connected to a navigable body of water. The court leaves the regulation to states. Because few states regulate these isolated bodies of water, environmentalists are wary of the potential for the filling and development of approximately 8 million once-protected wetlands. The National Association of Home Builders (NAHB), though, applauds the decision, calling it "a major legal victory for home builders and other private property owners."

The 5-4 decision, by the same Supreme Court lineup that stopped manual recounting of votes in Florida, ruled in favor of the petitioner, Solid Waste Agency of Northern Cook County, and against the United States Army Corps of Engineers. The ruling allows the waste agency to fill the site of a former mine that now has a number of shallow ponds that are migratory habitats for birds. The decision nullifies what was known as the migratory bird rule, which provided jurisdiction over isolated waters that were or could be used by migrating birds.

Chief Justice William Rehnquist wrote for the majority, "Permitting the [government] to claim federal jurisdiction over ponds and mud flats . . . would also result in a significant impingement of the states' traditional and primary power over land and water use."

NAHB, which filed friend-of-the-court briefs on behalf of the solid waste agency, called the ruling a "triumph for landowners."

Environmental advocates, however, warn the decision will allow filling and development of natural isolated wetlands that function as bird habitats and as part of a filtration system for rainwater reaching rivers and lakes. Carol M. Browner, the Clinton administration's head of the Environmental Protection Agency, which administers the Clean Water Act with the Army Corps of Engineers, told the *New York Times* that the ruling would "make it even more difficult to effectively protect against the loss of wetlands."

A state's power to regulate isolated wetlands may, in some cases, be tied to the ability for the Army Corps to regulate. That's the case in Wisconsin, for example. "If the Corps doesn't have jurisdiction, we have no way of regulating those wetlands or the activities that impact them," Franc Fennessy, executive assistant to the Wisconsin Department of Natural Resources Secretary, told RECORD. "In a worst-case scenario, 4.18 of the 5.3 million acres of wetlands in Wisconsin are no longer protected."

The Army Corps of Engineers is expected to develop a definition of protectable wetlands.

The United States has about 105.5 million acres of wetlands, less than half of what existed in the 17th century. *JEC*

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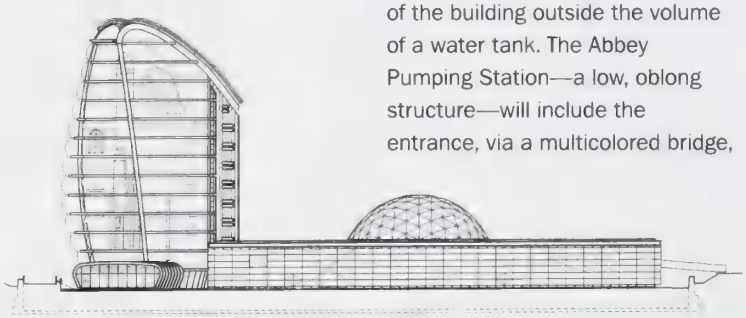
CIRCLE 25 ON INQUIRY CARD

Is it rocket science? Grimshaw's National Space Science Centre in Leicester to open

Britain's first center of space science is nearing completion in the eastern Midlands city of Leicester. Designed by Nicholas Grimshaw and Partners, the $20 million National Space Science Centre—part research institute and part visitor attraction—will open in March on the site of former water tanks on the north bank of the River Soar.

A transparent rocket tower defines the visitor-attraction end of the scheme. The cone-shaped tower structure is composed of welded tubular girders clad with a skin of ETFE foil, a material lighter than glass. It will house a collection of mounted space-exploration equipment, including rockets, missiles, and satellites. Visitors will get a close-up view of the rockets, some nearly 100 feet tall, on a series of four viewing platforms.

The tower is the only element of the building outside the volume of a water tank. The Abbey Pumping Station—a low, oblong structure—will include the entrance, via a multicolored bridge, and a center for education and research affiliated with the University of Leicester. A 200-seat geodesic planetarium—the Space Theatre—will include public programming. Parts of the tank's external wall will be retained in Grimshaw's building envelope.



Thanks to funds from Britain's national lottery, the face of the country's cultural infrastructure has been radically enhanced over the past 12 months. The National Space Science Centre is the first of four national lottery-funded Millennium attractions by Grimshaw to be completed. The Eden Project—the world's largest artificial bioclimatic environment, housed in a series of Buckminster Fuller–inspired geodesic zones—will open in April 2001 in an abandoned Cornish tin mine. His other Millennium projects are an addition to the Roman baths in Bath, to be complete in 2002, and Millennium Point, which is an event center in Birmingham that will open this fall.

Adam Mornement



The National Space Science Centre will display rockets in a tower clad in ETFE foil.



CIRCLE 26 ON INQUIRY CARD

Clinton honors nine federal projects with Presidential Awards for Design Excellence

At Washington's Constitution Hall on December 20, then President and Mrs. Clinton honored nine projects with the Presidential Awards for Design Excellence. The fifth quadrennial awards honor the best federal design in architecture, urban design and planning, historic preservation, interior design, engineering, and graphic design.

The winners are: U.S. Census Bureau National Data Processing Center, Bowie, Md., by Davis Brody Bond and Tobey + Davis (now the Smith Group); U.S. Port of Entry, Calexico, Calif., by Dworsky Associates (now CannonDworsky); Grand Central Terminal, New York City, by Beyer Blinder Belle Architects & Planners; Interstate 70, Glenwood Canyon, Colo., by Gruen Associates; NASA's Mars Pathfinder Mission; Franklin Delano Roosevelt Memorial, Washington, D.C., by Lawrence Halprin; National Park Service Park Cultural Landscapes Program, by National Park Service Cultural Resource Stewardship and Partnerships; Westside MAX Light Rail, Portland, Ore., by Parsons Brinkerhoff Quade & Douglas, Zimmer Gunsul Frasca, Otak, Inc., BRW, Inc., and LTK Engineering Services; and the Mayors' Institute on City Design, which was established by the Design Arts Program of the National Endowment for the Arts (NEA) to educate mayors on design.

Vincent Scully, the Sterling Professor Emeritus of the history of art at Yale University, chaired the jury that selected the nine recipients from 35 finalists. The group of 35 had been recommended to receive Federal Design Achievement awards by four juries led by architect James Polshek, FAIA, landscape architect George Hargreaves, engineer David Billington, and graphics artist April Greiman. Juries reviewed 338 submissions.



Westside MAX Light Rail won a Presidential Award for Design Excellence.

Administered jointly by the U.S. General Services Administration and the NEA, the Presidential Awards for Design Excellence are the only government-wide recognition of excellence in federal design. *JEC*



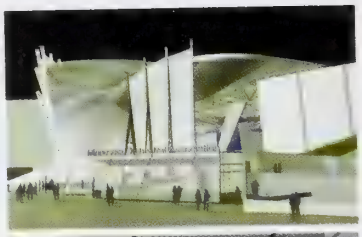
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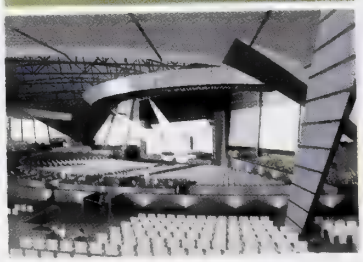
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News Briefs

Minnesota Orchestra cancels plans for amphitheater Minneapolis-St. Paul is one of the country's largest metro areas without an outdoor amphitheater, and it will likely keep that distinction for a couple more years. An outdoor amphitheater for the Minnesota Orchestra Association (MOA), designed by Hodgetts + Fung Design Associates of Los Angeles and Hammel Green and Abrahamson (HGA) of Minneapolis, will not be built. The orchestra had planned to break ground this spring on its 19,000-seat, $40 million amphitheater in Brooklyn Park, Minn., a suburb of the Twin Cities. But on January 4 the orchestra announced that it had gained no significant donor and the cost increase beyond the $40 million estimate had essentially killed the project. The Hodgetts + Fung/HGA team had designed an elliptical amphitheater with covered seating for 6,500 people, and a lawn for an additional 12,000. A competing outdoor amphitheater is proposed for a former landfill in Burnsville, Minn., but site remediation must precede construction. *Bob Dillon and JEC*





Plans cancelled for amphitheater (above) by Hodgetts + Fung and HGA.

Gehry to develop college master plan The Art Center College of Design has selected Frank O. Gehry, FAIA, to develop a master plan for a major expansion at its Pasadena campus, to include a library, technical skill center, and fine arts studios. The master plan will be complete by summer, and schematic design of the various components will follow. The college says this expansion could take up to 10 years.

Saints depicted in City of Angels Los Angeles visual artist J. Michael Walker wants to transform his city's bus stops into a civics lesson. With an innate curiosity for the history of place, Walker has researched the origin of all 78 Los Angeles streets that are named after saints. With his research in hand, Walker designed 6-by-4-foot prints that illustrate the history of 24 of the individual streets, such as Santa Monica Boulevard and Santa Fe Avenue. For the first 24 prints, he received nominal seed money, $6,500, from the City of Los Angeles Cultural Affairs Department and an additional $4,200 from private donations. The prints, which tell the story of the street's namesake with some local history, appeared in city bus shelters for six weeks last fall and, then, on exhibit at a Highland Park, Calif., gallery through December. Walker's plan is to create prints for another 24 streets in each of the next two years until he has a collection that he will call "All the Saints of the City of the Angels."



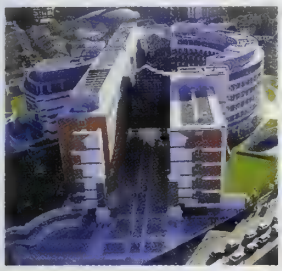
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AIA and Wiley form alliance The American Institute of Architects and John Wiley & Sons announced a strategic alliance to develop, publish, and distribute professional and educational content in print and digital format.



News Briefs

Venturi, Scott Brown honored by France On January 18, His Excellency François Bujon de l'Estang, ambassador of the Republic of France, conferred upon Robert Venturi, FAIA, the medal of Commandeur of the Order of Arts and Letters and upon Denise Scott Brown, FAIA, the medal of Chevalier of the Order of Arts and Letters. Venturi and Scott Brown were honored for their design of the Hôtel du Département de la Haute-Garonne in Toulouse, France.

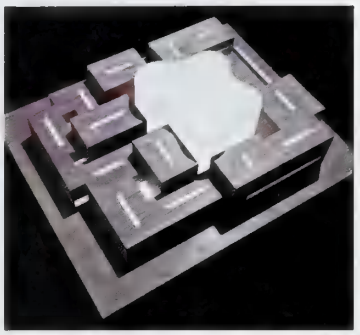




The Toulouse project (left) by Venturi, Scott Brown.

Lapidus dead at 98 Overflowing with kitsch, his hotels can be described as "unusual" or even "gaudy." Once derided for his showy buildings, Morris Lapidus was ultimately hailed for being Postmodern before Postmodernism was even coined. Lapidus died January 18 at age 98 at his home in Miami Beach. He is best known for his design for retail and more than 200 hotels, including Miami Beach's Fontainebleau, Americana, and Eden Roc. Having created a lobby in his own "modern French-château style," Lapidus himself called the 1954 Fontainebleau "the world's most pretentious hotel." His hotels were crowd pleasers, though they were the antithesis of the contemporary stripped-down Modernism of Mies van der Rohe. Rather than conforming to prevailing architectural trends, Lapidus defined his own style. He retired in 1984 but continued to work in recent years in collaboration with Miami architect Deborah Desilets. Lapidus was honored in 2000 with an American Originals award, in the inaugural National Design Awards by the Smithsonian's Cooper-Hewitt National Design Museum.

L.A. Children's Museum chooses architects for two projects The Children's Museum of Los Angeles selected architects in January for two new museum buildings: Morphosis for the museum's downtown site and Angélil/Graham/Pfenninger/Scholl for its San Fernando Valley location at Hansen Dam. The structures will likely be at least 60,000 square feet and run between $40 million and $60 million each. Short-listed firms for the two projects included Chu + Gooding Architects, Hodgetts + Fung Design Associates, Jones Partners Architecture, Eric Owen Moss Architects, and Randall Stout Architects. Thom Mayne, AIA, principal of Morphosis, said, "This is a dream assignment for Morphosis."



City of Cultures by Chipperfield.

Chipperfield wins competition for Madrid museum London-based David Chipperfield has won a competition to transform an industrial block in Milan into the Ansaldo City of Cultures Museum. Chipperfield will insert a transparent central atrium with curving forms into a complex of existing and new rectilinear buildings. *David Cohn*

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CIRCLE 29 ON INQUIRY CARD

Furthering the lessons that landscape architects offer in the war on sprawl

Critique

By Kalvin Platt, FAIA

In her critique "Sprawl Has Turned the World Inside Out" [AUGUST 2000, page 55], Suzannah Lessard makes the provocative assertion that landscape architecture is "perhaps better equipped to come to grips" with sprawl than other professions.

As Lessard points out, landscape architects are trained to work in both the natural and man-made worlds and think on a regional or metropolitan scale. Because they deal with landscapes that mature and change over time, they also have a long-term perspective that architects and developers often lack. It is their job to forecast the long-term impact of a single project on surrounding uses and on the environment. Thus, they can predict what will cause sprawl to spread and what will help stop it in its tracks.

Architects, planners, developers, politicians, and landscape architects must work together using the weapons—the natural systems most threatened by sprawl—to turn the world the right way around again. Lessard's column, while insightful, did not go far enough. She did not provide the key landscape-architecture-based strategies that will help tame sprawl.

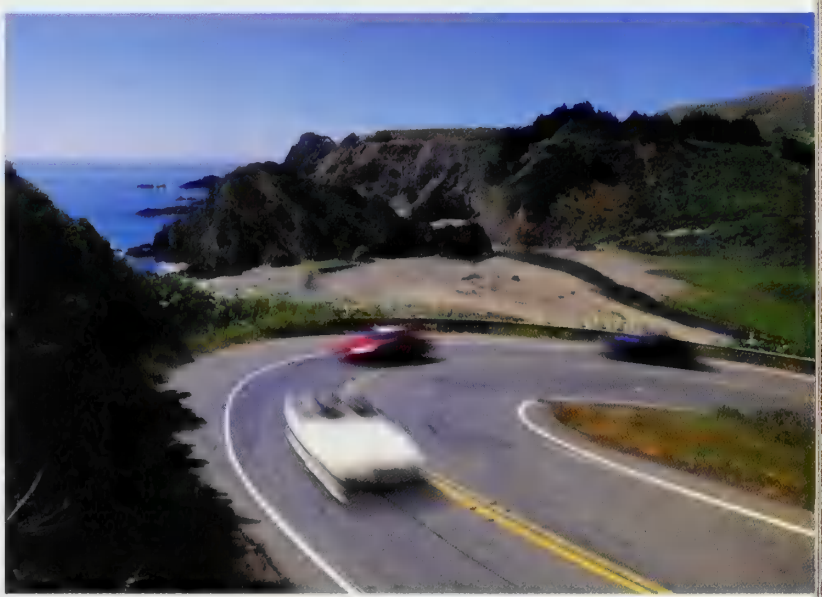
Fix roads and highways first

Many architects and planners are so focused on projects that they ignore the basic generators of sprawl—our roads and highway corridors—which open previously unavailable land for development, as well as damage existing communities and topography along their routes. The use of landscape architecture principles can help create roadways that minimize sprawl.

First, rather than accepting the traffic engineer's focus on the shortest, easiest distance between Point A and Point B, new roads can be designed to preserve existing topography. The George Washington Memorial Parkway in Washington, D.C., shows that roadways can carry large volumes of traffic while preserving environmental features along their routes.

Second, streets and highways must define and strengthen both new and existing communities by reclaiming their traditional role as multipurpose public realms that serve pedestrians and vehicular traffic while attracting high-quality development. For example, dozens of new Main Streets and town centers have been built (or are being built) in post–World War II suburbs that were originally developed around shopping centers and highways. These new Main Streets are narrow enough to slow through-traffic. Their sidewalks are wide and handsomely landscaped to attract pedestrians to local shops and restaurants.

Third, architects and planners can use landscape architecture tools to help transform existing roadways and encourage reinvestment—particularly higher-density development—along their routes. Development that might have gone to a greenfield site would thus be redirected into the existing community, improving property values and the quality of life while slowing sprawl. The Houston Green Ribbon freeway project, for example, which broke ground in February 1999, is using extensive landscaping to screen the edges of its expressway lanes and adjacent frontage roads. These improvements will encourage quality infill development along freeways, which will help reduce sprawl.



Roads such as the Pacific Coast Highway (above) can be designed to preserve existing topography while carrying large volumes of traffic.

Work regionally

Sprawl knows no man-made boundaries. It leaps over jurisdictions, even state lines, with impunity. To combat sprawl, architects and planners must therefore work regionally, and they must start by using landscape architecture tools to identify every region's remaining natural systems—valleys, rivers, mountains, forests, wetlands, and prairies—as well as man-made landscapes such as farms, timberlands, vineyards, and groves.

Landscape architects use advanced technologies, such as high-resolution satellite imagery and Geographic Information Systems (GIS), and they work with biologists and other environmental scientists to create comprehensive natural analyses. With this information, we can understand large land areas and their capacity to support growth. In collaboration with landscape architects, architects and planners can then identify where development can and cannot safely occur.

We must also weave networks of protected open space throughout

Kalvin Platt, FAIA, is chair of the SWA Group, an international landscape architecture, planning, and urban design firm in Sausalito, Calif.



Platt asserts that growth boundaries do not have to be bodies of water or dense wooded area. They can be farmlands or open spaces (above) of historic or cultural importance.

our metropolitan areas to surround, limit, direct, and define development and to reestablish the traditional distinctions between the man-made and natural environments. In metropolitan Atlanta, for instance, the Trust for Public Land has initiated a campaign to transform the polluted, development-riddled Chattahoochee River basin into a 180-mile-long "ribbon of green" stretching from the north Georgia mountains to Columbus, Ga. This linear natural system will reduce water treatment costs, create greater Atlanta's first metropolitan-scale park, help define a development path, and limit sprawl in an already sprawl-riddled area.

Networks of open space do not have to be greenfields. Swaths of largely abandoned inner-city neighborhoods, derelict factory or warehouse districts, and unused railroad lines and railyards can all be converted into natural resources that bring new life to our cities and help redirect development inward.

IT'S NOT ENOUGH FOR WELL-INTENTIONED ARCHITECTS AND DEVELOPERS TO BUILD A SEASIDE HERE AND A KENTLANDS OR CELEBRATION THERE, AND CLAIM VICTORY.

Rethink growth boundaries

Urban growth boundaries—often in the form of greenbelts—are widely considered to be one of the most effective weapons in the war against sprawl. In theory, they not only help stop sprawl but also encourage infill development, lessening the need for outward growth.

But sometimes that isn't how they work in the real world. In Ottawa, development has jumped that city's growth boundary on all sides. Why? Because the Ottawa greenbelt is an artificial line, based on property boundaries.

To succeed over the long term, urban growth boundaries must be based on natural systems—hillsides, forests, river basins—that are immediately recognizable, easy to protect, and hard to jump. Natural growth boundaries, which can become parts of federally mandated habitat conservation areas, are also more popular politically than arbitrarily drawn lines. Because people can use such natural systems for recreation and appreciate their role in environmental protection, they are more likely to support such boundaries. And popular support becomes vital when sprawl-oriented developers and politicians argue to breach a boundary—as is now happening in Portland, Ore.

Some metropolitan areas are blessed with dramatic natural features that can form the basis of an urban growth boundary. San Francisco, for example, has its Bay, the Pacific Ocean, several mountain ranges, and an inventory of protected land, including the Golden Gate National Recreation Area. But even cities in the Plains States have environmental systems, such as farmland or open spaces with historic or cultural significance, that can be incorporated into an urban growth boundary. The master plan for the new 2,000-acre community of Green Meadows, outside Des Moines, identified agricultural areas and permanent wetlands, created a greenbelt framework of those lands, and within it laid out a mixed-use community.

Work locally

Architects and planners must also battle sprawl on a project-by-project basis. Unlike development patterns of the last 50 years, the scale and character of new residential and commercial development should be determined by open space and natural systems—the work of landscape architects—not vice versa. Like a mini greenbelt growth boundary, open space should be used as the edge to any development, giving shape and definition, as well as a sense of entry and identity.

When master-planned communities are designed properly, they can be good models because they typically set aside 20 to 50 percent of their sites for open space. This permanently protected land forms the backbone of the community, encouraging higher-density development. It can also create edges that separate the community from other developments and help stop sprawl. In addition, open space recreational corridors, such as bikeways or hiking trails, can connect neighborhoods within a community while linking the community to a regional open space network. Connection, particularly on a pedestrian level, is the antithesis of sprawl.

Not only can natural systems be used to direct and limit sprawl, they can also provide some of our basic infrastructure, reducing infrastructure costs, preserving farmland and wildlife habitats, and creating permanent open space. Prairie Crossing, Ill., an environmentally sensitive 667-acre community north of Chicago, used a system of swales, restored prairie, and man-made wetlands and lakes to reduce the cost of the community's stormwater management development by $1 million and to provide the community with permanent open space.

In his 1998 bestseller, *A Man in Full,* Tom Wolfe described a drive through the easternmost reaches of San Francisco Bay Area suburbia: "He had driven through that whole area, from Vine Hill, where he lived, on east to Pittsburg and beyond, and it was now one vast goulash of condominiums and other new, cheap housing. The only way you could tell you were leaving one community and entering another was when the franchises started repeating and you spotted another 7-Eleven, another Wendy's, another Costco, another Home Depot. The new landmarks were not office towers or monuments or city halls or libraries or museums but 7-Eleven stores."

It's not enough for well-intentioned architects and developers to build a Seaside here and a Kentlands or Celebration there, then claim victory, when just outside the limits of their well-planned town lies a vast sea of cheaply built mini-malls, car dealerships, and big-box retailers, surrounded by acres of asphalt parking lots. Their project may win one battle, but not the war. ■



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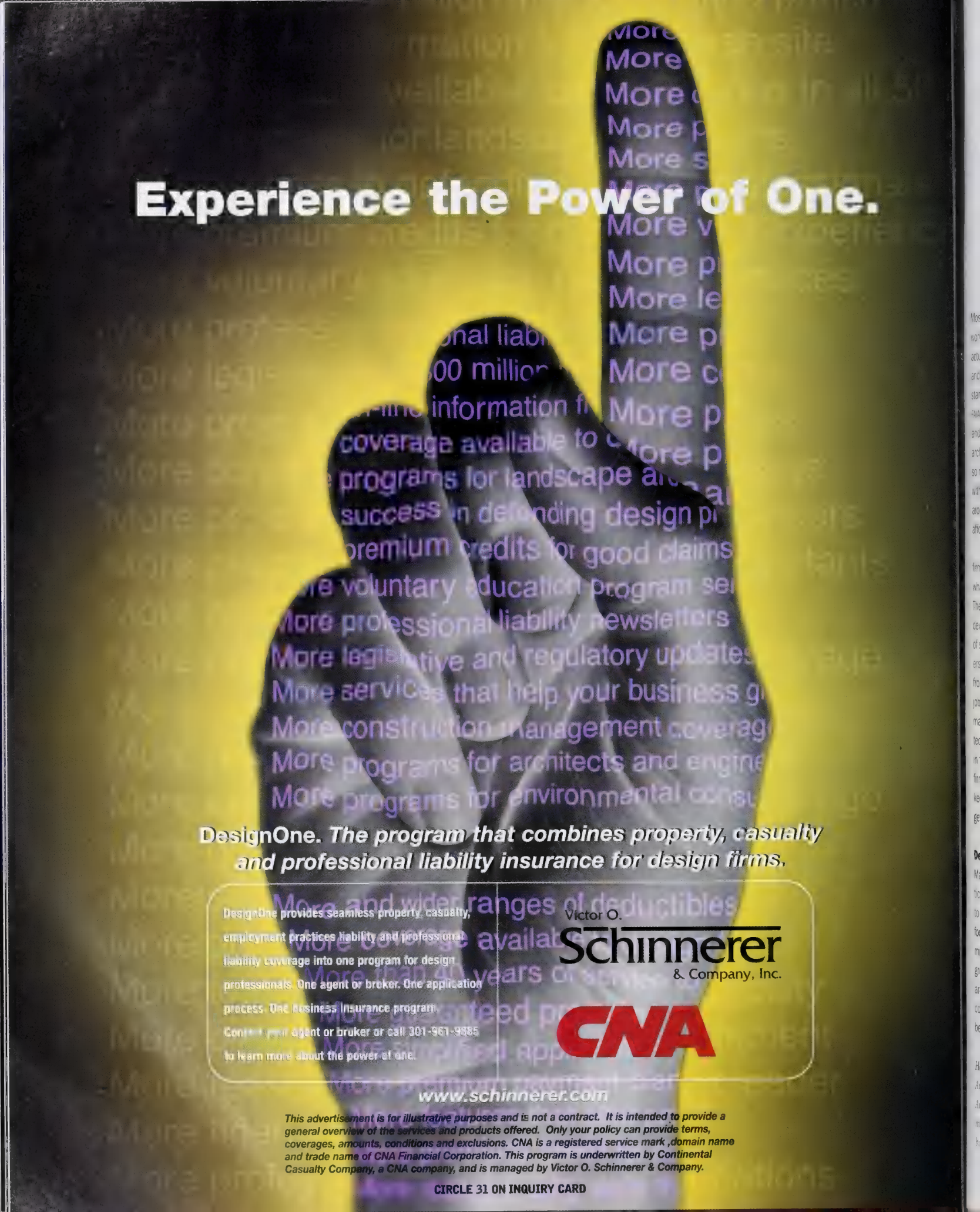
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CIRCLE 31 ON INQUIRY CARD

Positioning your firm to just say no

Practice Matters

By Herb Nadel, FAIA

Most architects compete so hard for work that it seems only a handful actually get to choose their projects and their clients. These are the stars, people like Richard Meier, FAIA, Cesar Pelli, FAIA, Renzo Piano, and Norman Foster, whose personal architectural styles have won them so much acclaim they are inundated with requests to design projects around the world and who can afford to turn down work.

Actually, even less known firms, large or small, can decide what kinds of work they will do. The key lies in strategic business development, rather than the kind of short-term thinking that considers only the profit to be gained from each new project. Taking any job that comes along simply to make money may be fine for architects who are just starting out, but in the long term it can diffuse your firm's energies and resources and keep you from devoting them to getting the kind of work you want.

Developing a business strategy

Many of these ideas seem simplistic on the surface, but in the race to stay ahead, they are often forgotten. Begin simply by determining whether the firm should grow, or if you and your partners are happy with your income and comfortable with the current number of employees. No matter what people tell you, bigger is not necessarily better. Large firms have certain advantages, such as offering more services, but they also have more complex management issues, as well as increased payrolls and overhead expenses. This exercise is a good starting point for other planning activities, such as creating budgets for marketing and hiring.

Next, look at which market sectors your firm is engaged in. Are you and the other members of the firm really interested in doing this kind of work? How profitable is it? Can your firm establish local or regional dominance designing these types of buildings? Is the work compatible with your staff's talents? Once you have decided that the firm's future lies in continuing to do the same types of building, you should move to protect this niche by establishing a reputation as the "go-to" firm for that kind of work in your region. You will effectively limit the number of future competitors.

Protecting your market sectors goes hand in hand with building and retaining client loyalty, one of your firm's greatest assets. Sometimes retaining that loyalty may mean taking on jobs that are not challenging as design problems, that might normally be too small for your firm, or that might not be profitable. Even the firms that are already able to pick and choose their work have to consider that if they turn a job down, the client will be forced to go to another architect and will perhaps stay with this new firm. Consider that the small jobs are often great training opportunities for younger staff members. By the same token, when other competitive firms turn down work for these reasons, this can create an opportunity for your firm to show what it really can do.

Change or diversify your work

Niche positioning can be great, but your strategic-planning process may indicate that too much of your firm's income comes from within one sector of the market. If, over the last few years, your firm specialized in offices for dot-coms, for example, it may have done well last year only to be suffering now. Remember, you can only say no to jobs that are on the table.

Or, if you've found yourself designing offices because your firm hasn't acquired enough experience to move into the more specialized work that you prefer, it is also hard to say no to the work you already do well. Diversifying or changing the building types requires attempting to determine which market sectors will be profitable in the years ahead. This requires research and will demand marketing [see "Marketing: The Unsung Heroine of Successful Architectural Practice," page 66 in this issue], as well as the help of someone who keeps a close eye on the economy and reports on the construction market. If you decide to diversify, you will need to identify key clients and market to them.

Consider a new territory

You may also want to assess whether it is worth the risks involved in opening or acquiring an office in a different geographic area.

Geographic diversification will certainly help the firm grow, if you have decided that this is desirable, and it will limit the impact of regional overbuilding or local economic downturns that might occur in the area where your established office is located. California architects, for example, might spend extra time and money to secure a project in a nearby state or even in Mexico or the Pacific Rim. Obviously, expansion to another location is fraught with many issues that are not within the scope of this article. In any case, it should not be done without heavy market research, together with an assessment of the potential for economic growth in the new region and the method of managing the new branch.

Build up your firm's talent

Whether you're thinking of going into new market niches or opening a new location, you will need to hire additional staff. The decision to hire specific individuals can go a long way to helping establish credibility in your firm's ability to design a different type. If you are opening an office in another community, new employees can help you develop relationships with key individuals and understand local laws and customs.

Growth may seem counterintuitive to "just saying no," but only by managing your firm's options can you join the ranks of the firms that choose which jobs they do. ■

Herb Nadel, FAIA, is president of Nadel Architects, a 200-person West Los Angeles firm that designs commercial, multifamily, industrial, and public buildings, as well as interiors.

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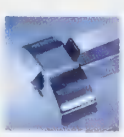
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CIRCLE 33 ON INQUIRY CARD

Snapshot



By Ingrid Whitehead

A symphony of frozen music: Canada's Ice Hotel

Bringing new meaning to the words "temporary shelter," the Ice Hotel Québec, located 7.5 miles from Québec City, is a winter wonder. At 10,000 square feet, and constructed entirely of 4,500 tons of packed snow and 250 tons of ice, this frozen cathedral is a cold-bed-and-hot-breakfast straight out of a Nordic fairy tale.

The Canadian counterpart to a 10-year-old phenomena in Jukkasjärvi, Sweden, the Ice Hotel Québec boasts ceilings as high as 16 feet, walls covered with original artwork, two art galleries (all the artwork is made of ice), a movie theater, and even an Absolut Ice Bar, where the gloved bartender serves up chilled vodka drinks in glasses made of ice. There are six rooms, sleeping up to 22 people, and the grand hall—with its majestic ice columns, shimmering carved wall, and delicate ice candelabra—can hold up to 400 people for parties and special events.



PHOTOGRAPH: © LOUIS DUCHARME



Special events indeed. Businessman Jacques Desbois saw the commercial potential in building such a structure after witnessing the huge success of the Swedish ice hotel. Desbois, who operates Canada's only commercially built igloo villages, enlisted a team of sponsors and businesses to carry his vision further, eventually gaining the support of the Société des Établissements de Plein Air du Québec (SÉPAQ), an organization that manages parks for the government of Québec. Desbois also convinced Québec's Office of Tourism and Conventions, among other tourism groups, to support the endeavor. He then brought in two architecture firms, Thermeca Interior Services and Émile Gilbert & Associates Architects, to make the frozen palace a reality.

The five-week-long construction process began with iron molds sprayed with packed snow. When the snow was shaped appropriately, the molds were removed. In the same way an igloo holds its shape, the Ice Hotel keeps its structure without the use of any artificial freezing—it's a chilly 27 degrees Fahrenheit all the time, and the ice fireplace (complete with ice deer-head above) won't keep you warm, just delighted. Fiber-optic and electric cables run through the ice walls, and even rain won't melt the mighty structure. Guests sleep on beds made of blocks of ice covered with wood pallet, deerskins, and sub-zero-quality sleeping bags. There are no showers, but portable bathrooms are located in an adjoining structure, and a building nearby, with a restaurant and the regular host of furniture and food, also has toilet facilities.

For $100 a night ($150 Canadian) it's a novelty not without its charm. And there's only three months to enjoy it—by the end of March, the hotel will melt away, not to be rebuilt again until next year's bitter, but beautiful, Canadian winter. ■

The Ice Hotel Québec (previous page and above), which opened last month and will melt by the end of March, features six rooms and sleeps up to 22 people. Each of the rooms has an individual theme, such as the Dali room and the wave room. The Swedish version of the hotel (below) is located 100 miles north of the Arctic Circle.





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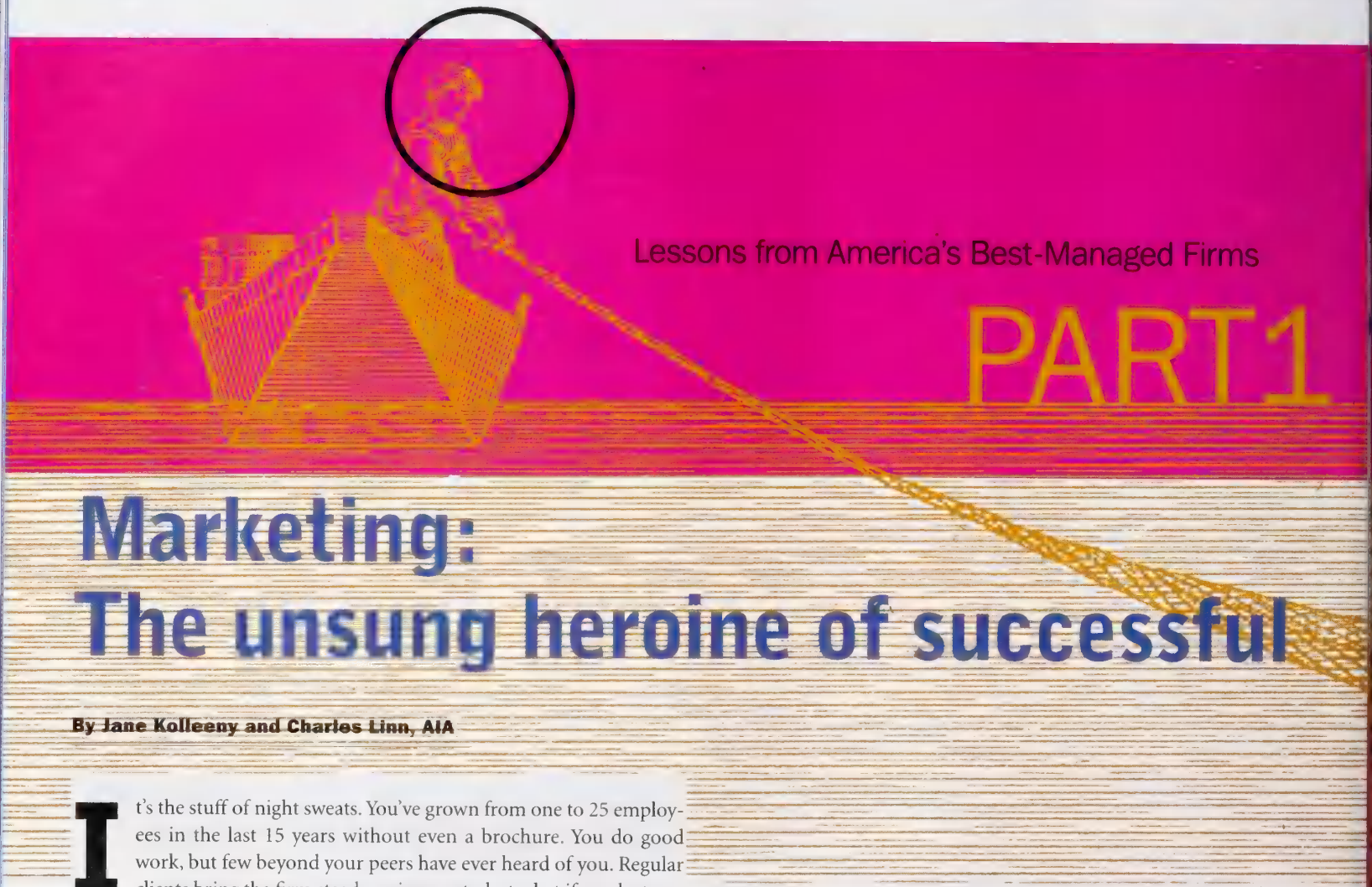
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Lessons from America's Best-Managed Firms

PART 1

Marketing: The unsung heroine of successful

By Jane Kolleeny and Charles Linn, AIA

It's the stuff of night sweats. You've grown from one to 25 employees in the last 15 years without even a brochure. You do good work, but few beyond your peers have ever heard of you. Regular clients bring the firm steady assignments, but what if you lost one active job? There are no prospects in sight. You'd have to lay off five loyal people who helped build the business and depend on it to support their families. You're far too busy to hang out at the golf course, hoping to turn up new work. But isn't that where new clients come from? You have no stomach for schmoozing. What you really want to do is design buildings.

Should you expand your marketing effort? Find a PR consultant? Develop a marketing plan, hire a designer for your Web site or a business development director? Do you invest a substantial chunk of money into this? If so, where do you find the best candidates, and what exactly should you expect of them? How soon can you expect results? How can you develop a strategy that will take your firm where you want it to go? Prospects used to land on the doorstep. Now you have to spend half your time developing them. Where do you turn?

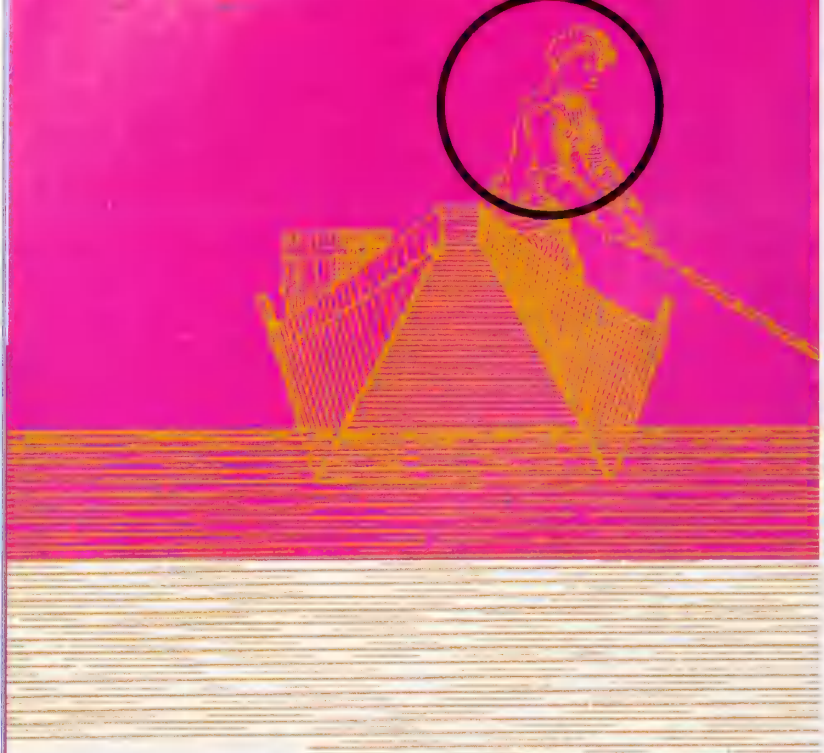
The evolution of architectural practice—from an anti-competitive, "may the-best-man-win" culture to one in which firms have to go out and win new projects, promote their designs, and also market their firms—was one of the most important changes in our profession during the 20th century. But many architects still do not completely acknowledge that they need marketing, although in this new century, marketing will continue to be more fully adopted by practitioners of architecture, and a plethora of marketing activities will be conducted over the Web. Unfortunately, little in the education of most architects ever gave them even the most basic understanding of how to sell what they do.

In this first of three articles on marketing architectural services, we will examine why architects are relative newcomers to the field of marketing, look at the cultural clash between architects and marketing people, and explore the gender issues that have emerged during the evolution of this discipline—a little discussed but important factor. The second article will focus on the various ways in which firms can organize their marketing efforts, discuss the components of a complete marketing program, and examine innovative practices used by some of the best-managed firms. The third article will look to the future of marketing. It



architectural practice

ARCHITECTS USED TO FIND WEIN PROJECTS USING THE OLD BOY NETWORK. EVEN THOUGH THERE IS MORE COMPETITION THAN EVER, SOME ARE STILL RELUCTANT TO ABANDON THEIR SEINES FOR DISCIPLINED, MODERN MARKETING.



HISTORICALLY, MARKETING WAS NOT ONLY LOOKED DOWN UPON, IT WAS FORBIDDEN. THE FIRST PRINCIPLES OF PRACTICE ADOPTED BY THE AIA IN 1909 BARRED ARCHITECTS FROM USING EVEN THE SIMPLEST FORMS OF MARKETING.

will examine the views of young practitioners, look at where education is headed, and assess the techniques architects are using to take marketing to the Internet.

The origins of our humble, self-deprecating nature

Historically, marketing was not only looked down upon, it was forbidden. The first Principles of Practice adopted by the American Institute of Architects in 1909 barred architects from using even the simplest forms of marketing. They could not advertise—defined as paid publicity—or even put their names on a sign in front of one of their buildings during construction. They could not offer free services, such as proposals or sketches. They could not take part in any competition unless it was conducted under the AIA's guidelines.

While an architect could advertise by paying for a line in the Yellow Pages, any "exaggerated or self-laudatory language" in brochures or press releases was against the rules—and that discouraged most architects from hiring public-relations staff. Press releases of today would have been grounds for censure by the standards of 50 years ago.

Prior to 1970, the greatest impediment to competition between firms, and therefore the greatest deterrent to marketing, was the rule that prohibited a firm from knowingly competing with another by offering to charge less for the same work. This rule was reinforced by the requirement that fee schedules, promulgated by the AIA, were to be used to determine what firms could charge for work [see "Why Architects Don't Charge Enough," RECORD, OCTOBER 1999, page 110]. Every architect was supposed to charge the same percentage of construction cost—the assumption being that if one architect charged less than another, the underbidder would also produce a building of lesser quality.

During the 1960s the U.S. Justice Department began to investigate the ethics of many professions on the grounds that rules against fee negotiations, such as those established by the AIA, were a form of trade restraint. As a result, the AIA signed a pair of consent decrees. In 1972 it agreed not to restrict members from submitting price quotes for services. In the 1990 decree, which has since lapsed, the AIA promised to refrain from adopting policies or bylaws that restrained members from submitting competitive bids, price quotations, discounts, or free work. Meanwhile, it asked its chapters to discontinue using fee schedules.

The effect of the consent decrees on both fees and marketing cannot be overstated. Because architects, like doctors and lawyers, have a fiduciary duty to their clients, they adopted ethical standards similar to the ones in place for those professions. They decided, as doctors and lawyers did, that they could not compete with one another on the basis of price and could not advertise their services. In the case of architects, it was as if Starbucks were forced to charge the same amount as Folgers but could not state why their brand was unique.

But when the consent decrees allowed firms to compete with one another for work, the AIA's position changed. Architects could openly compete and were allowed to market their services. Yet, freed from the strictures of the ethics codes in the 1970s, many architects still didn't overcome their reluctance to sell themselves.

Shortages of work during the recessions of the late 1970s, late '80s, and early '90s, combined with significant changes in client culture, forced architects to take marketing seriously. According to Cynthia Kracauer, managing principal at the New York office of Swanke Hayden Connell Architects (SHCA), "There was a sea change in the manner in which architects were selected for major commercial projects. In the past, selection was the purview of the company owner, CEO, or chairman—a component of the old boy network. Today, the facilities professionals select architects. This has made the formal, professional marketing effort crucial for success. But there still is an inherent distaste for this turn of events among the more traditional practitioners."

Today architects are actively engaged in marketing and are spending money on it. According to the AIA's recently published *Firm Survey 2000/2002*, in 1999 architects spent on average 7.5 percent of their expenses on marketing. Small firms (up to 50 employees) spent between 4.2 and 7.1 percent; large firms (50 and over) spent between 7.1 and 8.2 percent. That is an impressive sum, considering that larger firms report three-quarters of their billings are from repeat work, and smaller firms report two-thirds. While larger firms tend to get more repeat work than smaller firms, they are also far more likely to get new work through the more formal "request for proposal/request for qualification" method than smaller firms, which tend to rely more on referrals.

Since marketing as a mainstream function of architecture is relatively new to the profession, the differences among its distinct elements can be quite foggy to architects. It's no wonder. In the best case, marketing is still only touched on in the professional practice courses offered at architectural schools. According to Barry Alan Yoakum of PSMJ (Professional Services Marketing Journal) Resources, "Virtually 100 percent of architects' training focuses on doing projects. Their number one strength—solving project problems—creates their number one weakness—not equating clients with 'relationships' and failing to understand clients' businesses." These relationships don't grow on trees; they have to be cultivated—and this is the purview of marketing.



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THE PRINCIPALS OF THE FIRM DEFINE THE DIRECTION AND GOALS FOR THE MARKETING AND BUSINESS DEVELOPMENT EFFORT. YET MANY ARE ILL-EQUIPPED TO DO THIS WITHOUT RECEIVING PLENTY OF INPUT FROM SEASONED MARKETING PROFESSIONALS.



By definition, the marketing of architectural services includes all the activities required to create a "brand" for the firm and then to position the firm to attract the clients and projects it needs to achieve its practice goals. Branding means establishing a firm's identity and remaining true to it in as many ways as possible. As Craig Park wrote in his article "Brand Equity," published in the June 1999 *SMPS Marketer*, "The brand of a firm is the sum of all its measurable and visceral characteristics—the ideas, values, philosophy, features, and history that make it unique. The firm's brand image represents all internal and external assets—the name, iconography, literature, signs, vehicles, and culture of a firm." Richard Staub, a marketing consultant in New York, explains that positioning can then "take the brand and make it suitable for a particular market."

Ironically, architects are in the business of creating brands for their clients—they design spaces geared toward communicating the client's specific message to the world. In fact, there is a trend today among architects like Rem Koolhaas to emphasize the architect's role as a branding guru who takes the raison d'etre of clients and shapes it into tangible forms and messages. Given that architects have this skill, it would seem they would grasp the importance of successfully communicating their own image to their clients and to the public. But often they don't, or their reluctance to do so makes them resist examining what makes their firm different. In any case, the value of understanding and reinforcing the firm's brand cannot be overstated. "Being able to clearly show how a client will derive greater value from your services than from those of your competition is fundamental, and yet most firms do not understand how to explain what makes them unique," says Richard Burns of PSMJ Resources.

Good intentions, mixed results

Although most firms have attempted to develop marketing to some extent, the results are often disappointing. In the worst-case scenario, architects often simply don't understand why they need marketing. "They think that if they put out a quality product, the world will beat a path to their door," says Mark Zweig, president of ZweigWhite, a management consulting firm serving the design professions. He points out that a commercial may run hundreds of times during the course of a television ad campaign. Zweig isn't suggesting that architects market their services the way Madison Avenue markets soap. He is simply noting that many architects don't understand that they cannot rely on their reputations alone to communicate all-important messages about their skills and the quality of their work.

Sometimes architects expect instant results and will often prematurely blame the marketing professional when they don't occur. When it comes to new prospects, a long lead time—sometimes years—elapses between the initial contact and a tangible result.

Hugh Hockberg, president of the Coxe Group, a management consulting group for architects, believes these efforts sometimes fail because architects expect marketers to be the deal-closers between the firm and the client. But, as he sees it, marketers mostly serve to position the firm, providing the support required to put the architects exactly where they need to be in order to convince a client to hire them. Then the architects step forward and complete the dialogue using their personal and technical skills, thereby "closing" the deal. Not all firms follow this model, but such fundamental misunderstandings about who does what is a sure sign that a marketing effort is in trouble.

There are also cases where architects hire people to set up marketing departments and then turn their backs on them. "The principals of a firm define the direction and goals for the marketing and business development effort. If the principal does not own this effort, everybody fails," says Joy Fedden-Habian, herself an architect and a PR consultant in New York. Yet many architects are ill-equipped to establish these goals without receiving plenty of input from seasoned marketing professionals.

Just the opposite can also be true. Some architects have a difficult time accepting the contributions of others to their "art." In many cases they founded their firm and defined its philosophy. They find it hard to believe that anyone could promote it better than they. They may feel that marketers are less professional, their credentials less quantifiable, their skills more vague. A high percentage of marketing professionals worked their way up from being administrative assistants or took other, more circuitous career routes than architects. "Many architects, whose path to their position was more direct, have a level of distrust toward those whose education was less formal," says Maxine Leighton, a marketing principal at Beyer Blinder Belle Architects. The marketing professional is probably less senior, more focused on the business aspects of the firm, and perhaps less tuned to the subtleties of design. But both can wield considerable power over the firm's destiny.

No amount of marketing will fix poor-quality services, however. An architect may be a brilliant designer, but if he or she is unable to retain clients due to an inability to bring projects in on time, to stay within the budget, or to get along with clients, marketing efforts will be in vain. According to the AIA's *Firm Survey 2000/2002*, in 1999 firms reported between 66 and 75 percent of billings from repeat work. There is no



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WHILE 60 PERCENT OF MARKETING PEOPLE IN FIRMS ARE WOMEN, FEW MAKE IT TO THE TOP. ONLY 16 PERCENT OF MARKETING STAFF AT PROFESSIONAL FIRMS ARE AT THE PRINCIPAL OR VICE-PRESIDENT LEVEL. OF THESE, 84 PERCENT ARE MEN.

underestimating the value of cultivating positive relationships with existing clients. A firm's failure to secure repeat business is often due, not to the fault of the marketing department, but to the firm's inability to live up to its own promises.

There are distinct differences between marketing and business development, or "sales staff," and if the architect is not aware of them, he or she may hire the wrong person for the wrong job. "I perceive the greatest downfall of firms to be the continual insistence upon lumping everything having to do with promotion, sales, marketing, presentations, and communications into one department—often one person—called 'marketing,'" says Joy Fedden-Habian. "The person who assists with proposals and presentations, keeps the slide library together, writes press releases, and organizes the firm's holiday party is simply not going to be able to steer an effective business development program as well."

Mars versus Venus, and the opportunity gap

One fact that almost no one talks about is that the majority of people who market the work of this mostly male profession are women. As of September 2000, 60 percent of the Society for Marketing Professional Services (SMPS) members were women. Why?

Karen Courtney, a registered architect, interior designer, MBA, and 15-year marketer currently with NBBJ in Seattle, says, "The graduates I have hired for marketing positions have mainly come from journalism or communications backgrounds. My guess is that there are more women than men in these college majors." Others speculate that women gravitate naturally toward roles that involve interpersonal skills, no matter what industry they work in. Lisa Jenkins, director of communications for SMPS, backs this point of view: "Women are communicators, and communication is at the core of marketing and business development."

Mark Zweig believes the large number of women in marketing is due to the way marketing positions at architecture firms have evolved. "The first marketers at architectural firms were initially hired as administrative support staff, and they typically were women. As time went on, they gained experience, took on the task of preparing proposals, and eventually became what are now known as marketing coordinators." He's quick to add that the job requirements have changed since the creation of the first marketing departments at architectural firms: "The skill levels and professionalism of marketing staffs have escalated over the past two decades."

But while most marketers are women, very few make it to the top. According to the *SMPS 2000 Salary Survey*, only 16 percent of marketing staff at professional services firms are at the vice president or principal level, and of these, 84 percent are men. Though it's easy to point to gender as a cause of the historically uneasy relationship between architects and marketers, this explanation is too simplistic. There are some extremely successful firms where women marketers have been made principals. Even the corporation laws that exist in some states and that make it unlawful for nonregistered personnel to become firm partners do not completely account for the high percentage of men who are both principals and marketers.

According to Chicago-based RTKL's Lisbeth Quebe, who has 30 years of experience in architectural firms, including 15 as a principal: "In an architecture-driven firm, it's difficult for engineers, interior designers, and graphic designers to achieve equal footing with the architects. It's even more difficult for people without a project focus, the so-called support personnel—those in marketing, finance, human resources, and administration—to advance. When there is a ceiling on the number of leadership positions, the revenue-producing staff and especially the rainmakers will get preferential treatment. It takes a firm with some vision to see that the rainmakers and the revenue generators are made far more effective by association with an exceptional partner in marketing."

RECORD interviewed a number of marketers, mostly female and mostly nonarchitects, who have been made principals in their firms. Many of them feel their firms consistently integrate marketing with other business goals. Maxine Leighton considers herself fortunate to work for a firm that does not view marketing as an appendage. "My promotion to an associate partner, though I am not an architect, is indicative of how the firm understands and respects the role of marketing. It is a perspective that begins at the top of the organization. The firm sees marketing as an extension of its identity rather than as something that obscures its talents. It took a lot of work on my part to sow the seeds for this understanding and for this respect to develop."

Knowing how effective and valuable the marketing efforts of women can be, Richard Hayden, principal of Swanke Hayden Connell Architects, decided to turn the gender gap to the firm's advantage. Knowing that women communicate well and are effective marketers, he has supported the promotion of five women (four of them architects) to the position of principal at SHCA since 1999. All are active in marketing. Before this development, there had only been one female principal in the firm's 93-year history. Firms that fail to learn from this example may be missing a great opportunity.

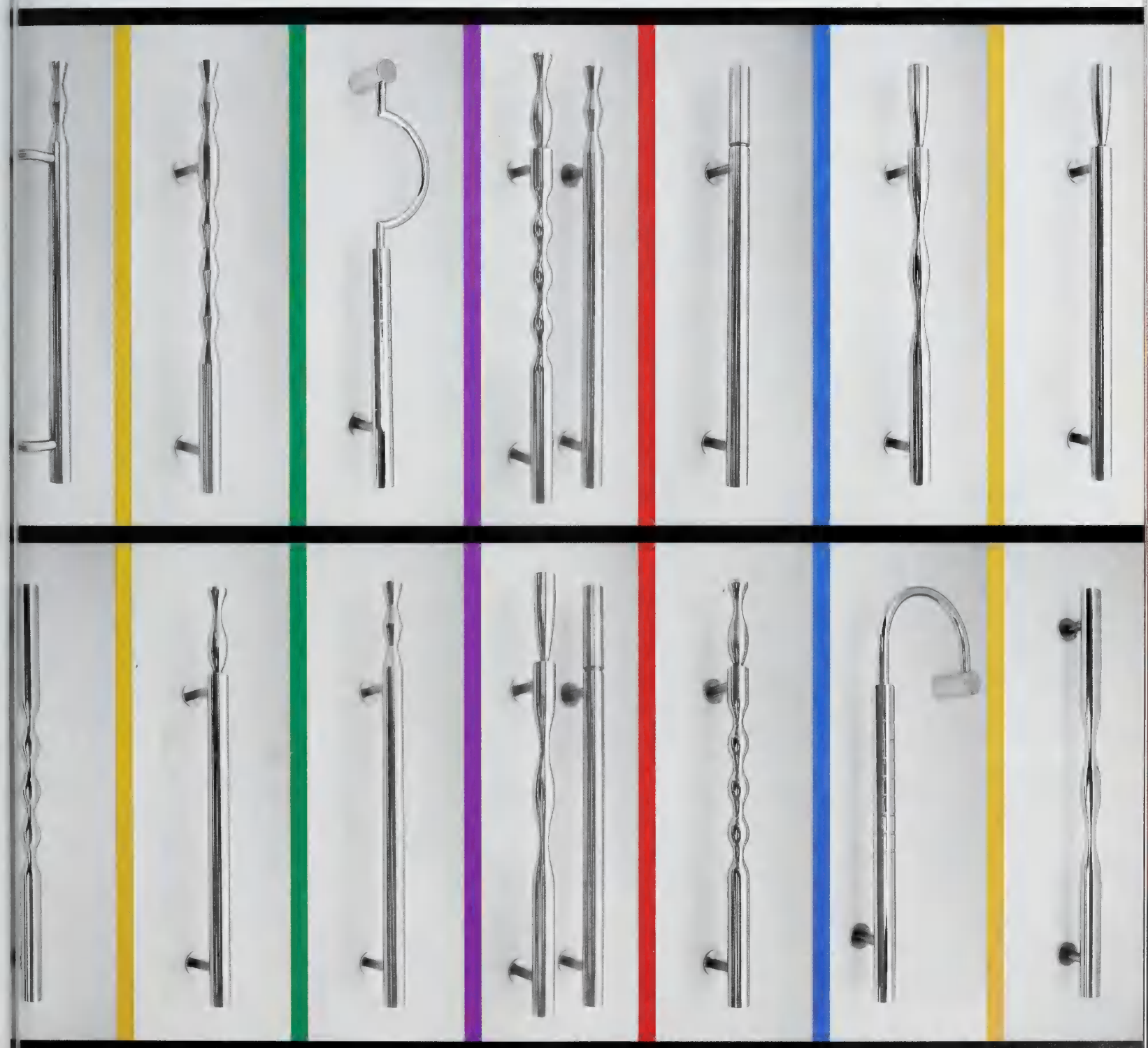
More to come

Architects see themselves as artists whose projects accomplish specific creative, technical, and functional goals. Marketers, on the other hand, are more likely to use their skills in a variety of different industries or settings to achieve a wide range of goals. This culture-clash issue also deserves more scrutiny if architects want to continue to market their services more effectively and more comfortably. Clearly, the architect's relationship with those who market services is still evolving. But one thing is sure: In an increasingly complex marketplace, a world driven by appearances and fast response time, marketing is here to stay. In part two next month, we will examine the organizational choices firms grapple with in the marketing arena, detail the elements that make up a complete marketing plan, and review strategies of some well-managed firms that have achieved remarkable success in marketing. ■

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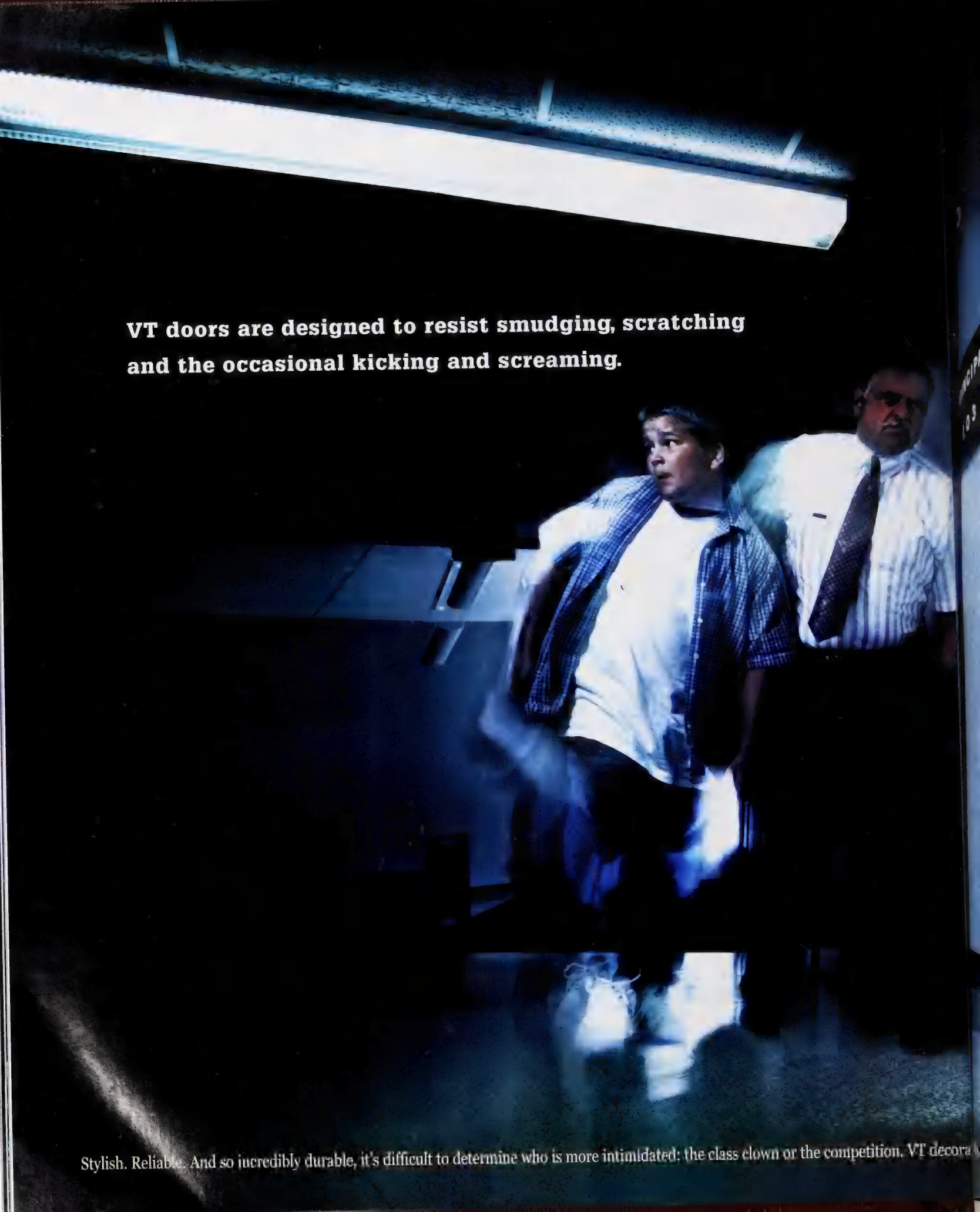
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The Hero of Hale County Sam Mockbee



By Andrea Oppenheimer Dean

This is the eighth year that Samuel Mockbee and his architecture students at Auburn University have been designing and building striking houses and community buildings for impoverished residents of Alabama's Hale County. In some ways, the place has changed little since James Agee and Walker Evans went there in 1936 to document the lives of poor white sharecroppers. The 1990 Census shows per capita income still averaging no more than $8,164, and 1,700 families still living in substandard houses. Most of the Rural Studio's clients are African-Americans, "left behind by Reconstruction," as Mockbee says. Many live in unheated, leaky shacks without plumbing in Masons Bend, a little settlement of about 150 people tucked into a bend of the Black Warrior River at the end of a winding dirt road about 10 miles from Greensboro, the county seat.

In addition to being a social welfare venture, the Rural Studio—Taliesin South, it's been called—is also an educational experiment and a prod to the architectural profession to act on its finest instincts. In June, Mockbee learned he had been awarded a MacArthur "genius grant." Not long afterward, speaking in the deep drawl of his region, the burly, bearded sixth-generation Mississippian had the following conversation with contributing editor Andrea Oppenheimer Dean:

ARCHITECTURAL RECORD: *What will you do with $500,000?*
SAM MOCKBEE: It'll allow me to take care of my family and get way out on the edge in my work and maybe do something that most people would think I was crazy to do, follow my instincts, let a project evolve, and con-

Contributing editor Andrea Oppenheimer Dean, together with photographer Timothy Hursley, is working on a book about the Rural Studio.

WWW For additional images of the Masons Bend Community Center, go to Interviews at **www.architecturalrecord.com**



PHOTOGRAPHY: © TIMOTHY HURSLEY







Rural Studio projects include (from left to right) the Bryant "Hay Bale House, Yancey Chapel [RECORD, MARCH 1996 page 74], and student housing.

Masons Bend
Hale County, Ala.

Masons Bend is not a trailer park. But most of the residents live in trailers—beat up and rusty ones at that. The hamlet, home to four extended African American families, lies in Hale County near the Black Warrior River, in the old cotton belt of western Alabama.

On a triangular patch of land, next to the dirt road that serves as the hamlet's arterial, stands a dramatic sculpture of glass and aluminum, cypress and steel, and rust-red earth. This is the Masons Bend Community Center, designed and built as a thesis project by a team of fifth-year students at Auburn University's Rural Studio—Adam Gerndt, Forrest Fulton, Dale Rush, and Jon Schumann, supervised by professor Bryan Bell. The cost was approximately $20,000, paid

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centrate on it. More than likely it'll be for the Rural Studio.

AR: *Any ideas what the project might be?*
SM: You know the profession's IDP internship development program? It is a well-intended program, but most interns dread it. I would like to offer architecture graduates an opportunity to come down to the Rural Studio as intern architects, under my stamp.

One idea is to also ask something of the premier architects in America, the Frank Gehrys, the I.M. Peis, the Richard Meiers, and Michael Rotondis. I'd like to ask each to design a cottage for a family that's living down here in a cardboard shack. I'd take their sketch and get four intern architects to build the house. Masons Bend, Alabama, would become like Seaside, Florida, but I'd be doing this for the poorest one percent of Americans.

I'd find the money to build these houses—we build them for $30,000—and make sure the workmanship is up to par. That's the sort of thing I'm thinking about.

AR: *You've stayed close to your Southern roots. Can you get an appropriate design from an architect who isn't rooted in place?*
SM: I'm not going to say that someone like Frank Gehry can't build something beautiful in a culture and place he doesn't know well. For the rest of us mere mortals, the best way to make real architecture is by letting a building evolve out of the culture and place.

I don't want to be pidgeonholed as a regionalist, yet I am, and I certainly don't want to get marked as a local colorist. I pay attention to my region; I keep my eyes open. Then I see how I can take that and,

"THERE'S A GLUTTONOUS AFFLUENCE AROUND, STAGE-SET DESIGN THAT'S BEYOND THE APPROPRIATENESS FOR THE CLIENT, THE PROGRAM."

using modern technology, reinterpret certain principles that are going to be true 200 years from now. I want the work to be looked at as contemporary American architecture, and, in that sense, it has to have a certain honesty to it. That's what's wonderful about the really great American architecture, its honesty.

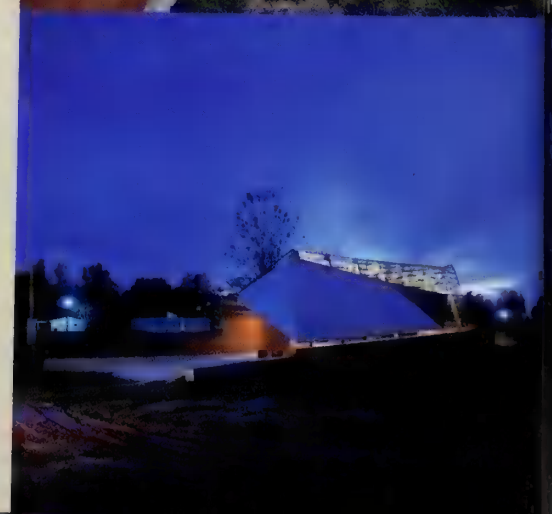
AR: *What do you mean by dishonesty in architecture?*
SM: There's a gluttonous affluence around, stage-set design that's way beyond the appropriateness for the client, the program, and it's all because a client or a developer has the money to build it. Alberti talked about choosing between fortune and virtue. The profession is becoming more a part of the corporate world while corporations (citizens of no place or anyplace) are more and more resembling nation-states. Every piece of architecture should express some moral. If it has moral merit, it deserves the title of 'architecture.' For me, the professional challenge, whether I am an architect in the rural American South or the American West, is how to avoid becoming so stunned by the power of modern technology and economic affluence that I lose focus on the fact that people and place matter.

These small projects designed by students at the Rural Studio remind us of what it means to have an American architecture without pretense. They remind us that we can be awed by the simple as much as by the complex, and if we pay attention, they will offer us a simple glimpse into what is essential to the future of American architecture…its honesty.



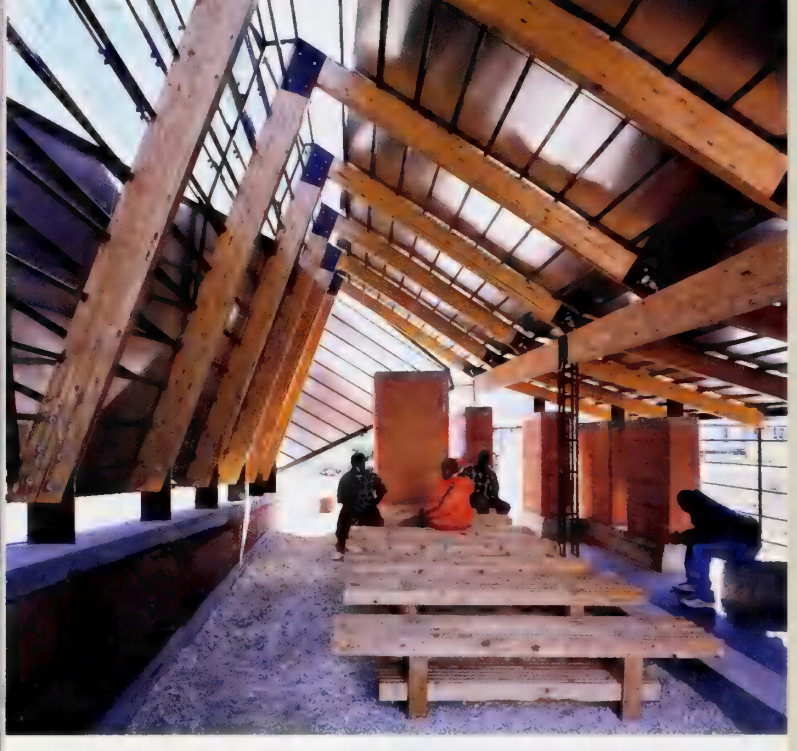








A barnlike bend in the slope of the aluminum roof (opposite, top and middle), along with a change in floor level, distinguishes the main nave from the more intimate space of the lower-level side aisle. Rammed-earth walls are punctured to provide glimpses of the surrounding fields while blocking less pristine views. The earthen walls (opposite, bottom) extend beyond the roofed space, in complementary rising and diminishing profiles, bending toward each other to suggest a prow. Next spring Anderson Harris will make a small garden within these walls to pull nature into the space.



The main nave (above), with its gravel floor, cypress benches, and raised speaker's podium, is a decidedly less intimate space than the lower-level side aisle, which has smooth floors of black concrete.

from funds donated by the Potrero Nuevo Fund of San Francisco.

The building is processional in outline, gathering the community within arms of rammed earth, funneling them through a slender entrance sheltered by a fold of aluminum, and delivering them into a space that leads the eye through a fish-scale-glass membrane to the sky and trees beyond.

The community center represents an expansion of the initial program of the Rural Studio, which began to build houses for the poor of Hale County in 1993, under the direction of Auburn professors Samuel Mockbee and Dennis K. Ruth. Two levels of architectural education occur at the Studio. Instructor Steve Hoffman is in charge of the second-year program, in which students reside at the studio complex for a semester, contributing to the design and construction of projects that evolve through several semesters. Professor Andrew Freer directs the thesis work of the fifth-year students, who form teams, devise projects, and design and build them within their residency of a full academic year. "The students hardly have a budget to speak of, and their technical ability is limited to some degree," explains Mockbee. "So they have to be very careful about picking their projects."

Gerndt says his team decided to explore architecture at the community level, rather than do an individual house. "But in order to devise an architectural solution for a community we weren't part of, we worked finishing another house first. We sort of went undercover in the community to develop a program, talking to the adults, playing with the kids. We came up with health care, education, recreation, worship—they were praying in a trailer—and a stronger sense of place."

The centrally located site, where the property lines of three founding families meet, was originally occupied by an engineless school bus that had served as a dwelling. "So we used

AR: *You say you've been cursed and blessed to be a Southerner. How so?*
SM: I grew up in a segregated South, in a very humanly warm environment, and had a wonderful education. But looking back on it, I know it was probably at the expense of the black community. I realize some of the things I'd been taught are wrong. The blessed part is that as an artist or an architect I have the opportunity to address wrongs and try to correct them.

AR: *So the Rural Studio is your way to redress wrongs?*
SM: We're excluding a whole army of people who've been excluded forever. These people down here are left over from Reconstruction; we need to reinstitute Reconstruction. W.E.B. Dubois said it 100 years ago: Reconstruction was prematurely stopped. He said that would be the big challenge of the 20th century; now we're in the 21st and we still have the problem and we're still ignoring it and they're still invisible.

AR: *What about the profession? What's happened to its social conscience?*
SM: Everyone's too busy trying to make a living. We have to be more than a house pet to the rich; we need to get out of that role.

AR: *Have your students had any problems learning to work with poor clients?*
SM: No. However, most of our students come from affluent families. For the most part, they haven't experienced this sort of poverty. They've seen it, but they haven't crossed over into that world, smelled it, felt it, experienced it. They come with abstract opinions that are fairly quickly reconsidered once they meet the families and realize that they're really no different from other American families. It's good to see these white middle-class students working hard all day trying to win the respect of people they wouldn't even acknowledge on the street before.

"EVERYONE IS TOO BUSY TRYING TO MAKE A LIVING. WE HAVE TO BE MORE THAN A HOUSE PET TO THE RICH."

AR: *How important is the building process as an educational tool?*
SM: It's valuable but not totally necessary. What's important is that students understand the process. It's the same regardless of whether they're building a little bitty studio for a basket weaver or a large building. We do preliminary sketches, schematic designs, and foundation designs and then we go out and start digging the foundations. Everything then happens on-site. It's how architects worked 100 years ago.

What's important is that for young architects this experience takes it out of the theoretical and makes it real. They start to understand the power that architecture has and the responsibility they have to the creative process and how that manifests itself in something physical. That's what architecture is. It's not paper architecture. No one loves to draw and paint more than I do. But it's important that students learn that drawing on paper and building models is not architecture.

AR: *This is the Rural Studio's eighth year, and it has built more than 13 projects. Why haven't other schools adapted the model for their own use?*
SM: I don't think the 100-plus architecture schools across the country realize how alike each program is, how interchangeable their curricula and faculty are. I've spoken at most of them. The faculty are usually all dressed in black. They all seem to say the same things. It's all become redundant and very stale, unimaginative. What's ironic is that you hear professors talk about how out of the box we need to be, how risk-taking is part of being an architect, yet the faculty is often guilty of sitting on

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The site, which was once occupied by an engineless school bus that served as a dwelling, is now a gathering place for the community.

a comparable footprint 15 by 30 for the community center, to keep the same scale," Gerndt says.

A generic gathering place with no mechanical systems fit the budget. "The front wall serves as a transit stop for the bookmobile, a computer lab on wheels, a healthcare bus, and Meals on Wheels," Fulton says. The interior is used for meetings, as well as spiritual space for group services and private meditation. "For the kids, it's like someone put in a jungle gym," Schumann says. "They play there after school."

Budget also determined material choices. "We wanted a monumental, be-here-forever architecture to visually anchor the community," Fulton says. "That suggested rammed earth [a mixture of local fill dirt, cement, and a polymer preservative compressed into wooden forms], which is cheap." Fulton says the students debated "whether to design to the Rural Studio aesthetic of vernacular forms, rusted tin, or go more contemporary. Sambo [Mockbee] encouraged us to do something new, so we brought in aluminum and glass."

The team cut down cypress trees, milled them into planks, and then had the planks glue-laminated into beams to support the aluminum roof. The tube steel uprights and trellis were scrap donated by a local firm, which the students sanded to remove rust, then painted black. The glass scales were once side windows in 1989 GM cars, which Schumann and a friend hauled from a salvage lot in his native Chicago.

"For the people of Masons Bend, everything is multipurpose. Nothing is specialized," says Gerndt. "A bus can be recycled into a house; the kids play in the road. So we used recycled materials for a multipurpose space, to reflect the ethos of the community."

The bare bones of Hale County are not an undiscovered country. In 1936 *Fortune* magazine assigned writer James Agee and photographer Walker Evans to document the daily lives of white tenant farmers in the Deep South. Agee and Evans spent six weeks of the long, hot summer with three Hale County families, sharing their food, sleeping in their cabins. *Fortune* publisher Henry Luce ultimately rejected their material as too supportive of the need for the New Deal. In 1941 their work was published, in a much expanded version, as *Let Us Now Praise Famous Men*.

Ironically, and unintentionally, Agee's highly wrought, exhaustive prose and Evans' cool photographs combine to distance their subjects, as if the artists were looking through a time lens at the Bronze Age. This "undefended and appallingly damaged group of human beings" living an "unimagined existence" seem so far removed from 20th-century American experience that no intervention seems possible. Mockbee and the Rural Studio are about exactly the opposite. Mockbee encountered the still desperately poor people of Hale County and intervened with an architecture carefully calibrated to the needs of its users, yet delivered on a high plane of formal quality. In the process, he and his students have woven themselves into the fabric of the community.

When asked if the families of Masons Bend ever question the contemporary design values—the butterfly roofs and fish-scale glass of the Rural Studio's architecture, Mockbee explains, "We'd already won the trust of the Harris family, who own the land, by the time we did the community center. So there wasn't any learning curve for the community. The people of Masons Bend aren't afraid of the honesty of what's being built, and they aren't concerned about putting up facades. Just like a blues singer, they can't afford not to be honest." *Christine Kreyling*

their hands. If architecture is going to nudge, cajole, and inspire a community or to challenge the status quo into making responsible environmental and social-structural changes now and in the future, it will take the "subversive leadership" of academics and practitioners to keep reminding the students of architecture that theory and practice are not only interwoven with one's culture but have a responsibility for shaping the environment, breaking up social complacency, and challenging the power of the status quo.

The Rural Studio is not an easy curriculum to run. It's a 24/7 obligation. During the week, I'm in Newbern living with students in a

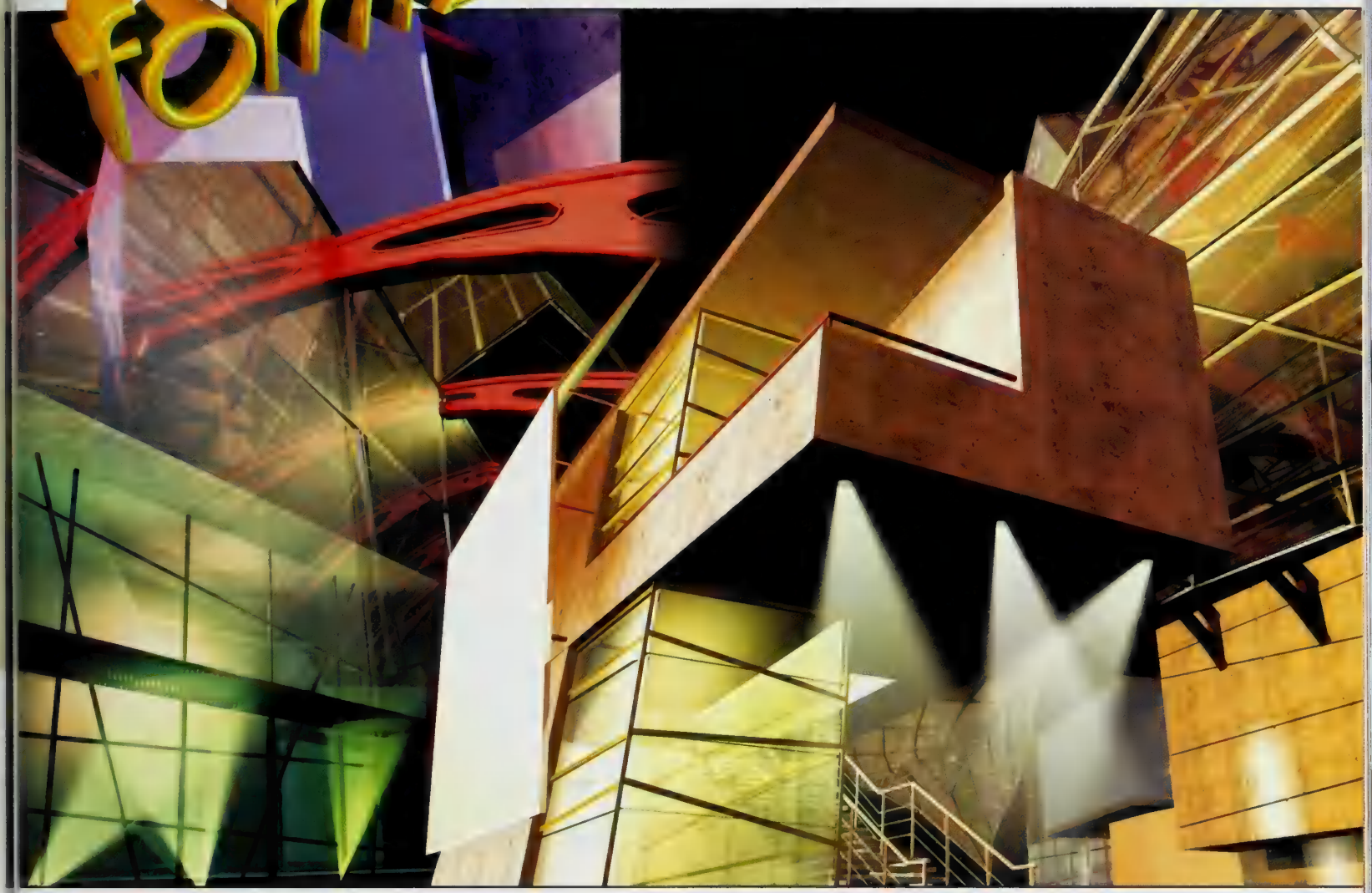
"THEORY AND PRACTICE HAVE A RESPONSIBILITY FOR SHAPING THE ENVIRONMENT AND BREAKING UP SOCIAL COMPLACENCY."

house built in 1890. If you're going to do this you gotta pack your bags, kiss your wife good-bye, and go to war. If you're not willing to do that, at least get out of the way and let the rest of us march on through.

AR: *It's unusual to really integrate teaching with practice as you've done.*
SM: I'm not an academician, but I am an educator. I'm an architect and I'm also a painter. It's all part of the creative act. That is my passion—to be responsible to the creative process. I enjoy certain technical ability, natural ability, and I get to use it. It's what all architects have and want to use. We're living the myth. I was willing to take that jump in the dark, as I like to say, and it's not going to be fatal. ■

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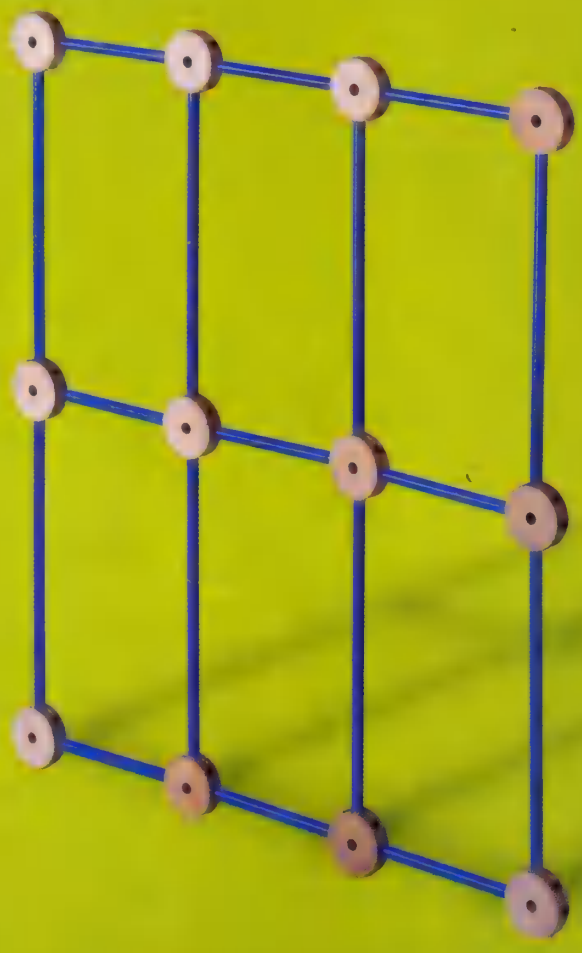
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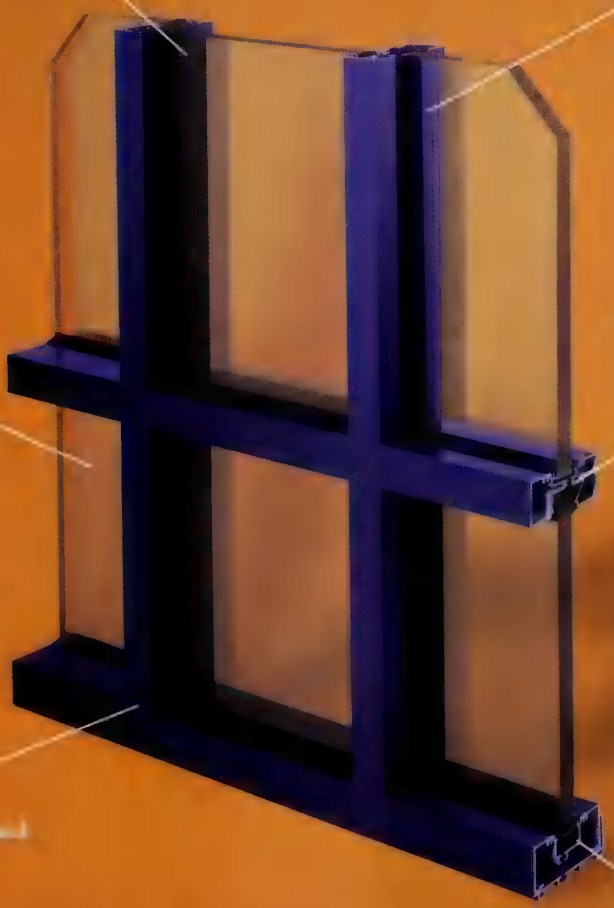
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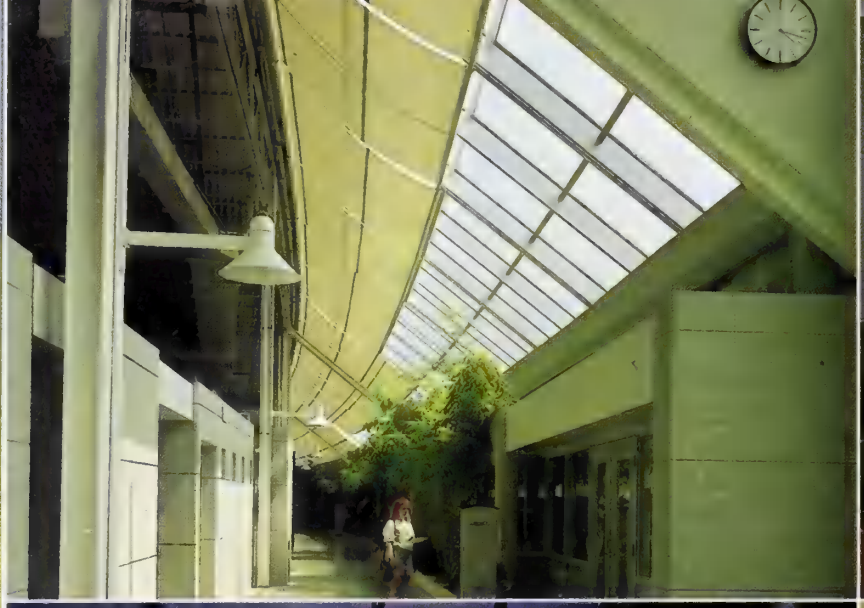


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CIRCLE 44 ON INQUIRY CARD

Out There...

Practicing Architecture Outside the Centers of Fashion

At a time when fashion rules, architecture and architects seem to be orbiting the fashionable. To pick up a recent architectural journal, ours included, it might seem that everything built, or worth writing about, emanates from New York or Los Angeles (or London or Amsterdam or Berlin or Tokyo). Obviously, that is not the case. The majority of architects lives and practices out there, in the towns and cities across America—away from the hype, far from Wilshire Boulevard or midtown Manhattan.

In fact, architects like Marlon Blackwell in Fayetteville, Ark., wake up every day, meet with clients, listen to their hopes and dreams, work with local building officials and bankers and contractors, and get things built.

Sometimes astounding things. Every day sophisticated people like Ray Huff, a modernist in historical Charleston, S.C., shake hands with the mayor, eat with the building committee of nearby small towns, and get on with making architecture.

How do they do it? They find inspiration in the people they work with. They find beauty and peace and knowledge in the landscape. Like Ray Huff or Marlon Blackwell, they teach at local universities, finding stimulation and challenge in the young people in their charge. They attend lectures and symposia at schools and professional organizations like the AIA, sharing ideas and work. They read the journals voraciously and are often able to quote chapter and verse on who is doing what, where. They travel regularly to those fashion centers, where they stop by the museums and the new buildings and the offices they once worked in, greeting the friends and teachers they might have left behind.

THIS YEAR'S GANG OF SIX FIRMS OFFERS AN INTRIGUING LOOK AT WHERE ARCHITECTURE IS BEING DONE. THINK OF IT AS A SCENIC DRIVE THROUGH GOD'S COUNTRY.

In a way that their urban peers rarely enjoy, they build. Brian Mackay-Lyons gets students out onto the land, lifting and nailing and making things. Sam Mockbee, the godfather of Out There, has turned rural America into a beneficent laboratory for architecture students, allowing them to rub shoulders with actual clients and to go to work for them. Rather than waiting, they are doing.

This month, RECORD presents a geographically dispersed, selective sampling of projects and people along less traveled roads. As the work of this talented group of architects demonstrates, the results of operating in smaller towns and cities can be rewarding: Each architect represented in the pages that follow has developed an inventive architecture, enriched by place. The work of this unusual group doesn't look like it emerged from the latest computer rendering, but has an authenticity borne of texture and memory and allusion that is personal if not idiosyncratic. The styles vary from vernacular essays to straight-up Modernist to found art to the cosmic; it may veer from fashion. It should not be ignored. ■

WWW For more information on the six firms profiled in the following pages, including more of their work, pictures, drawings, and statistics, go to **www.architecturalrecord.com**



Marlon Blackwell
Arkansas

Architect/firm: Marlon Blackwell, Fayetteville, Ark.
Date founded: 1988
Design staff: 1
Current projects: Gentry City Center, Gentry, Ark.; Tyson-Combs Shotgun Club, Fayetteville, Ark.
Completed projects include: In Fayetteville, Ark.—Keenan TowerHouse, Terminella Office Building (associated with Foster Witsell, Evens, Rasco), Farah Residence, Cozart Office Building (joint venture with Cromwell Architects-Engineers), Flynn/Schmitt BarnHouse; in Cashiers, N.C.—Moore HoneyHouse, June Moore Residence
Academic activities: Taught numerous design studios and classes at institutions in the U.S and Mexico, including MIT, Dalhousie University in Nova Scotia, University of Arkansas, and Syracuse University

"I'D LIKE MY WORK TO SHOW THAT AN ARCHITECTURE OF THE HIGHEST ASPIRATIONS IS POSSIBLE."

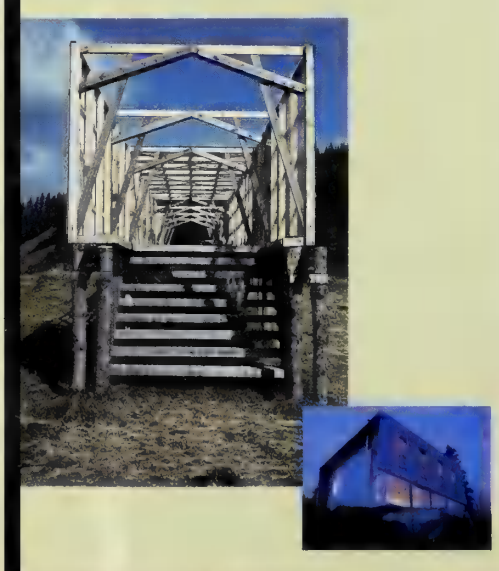




Brian Mackay-Lyons
Nova Scotia

Architect/firm: Brian MacKay-Lyons, Architecture Urban Design, Halifax, Nova Scotia
Date founded: 1985
Design staff: Varies from 6 to 8
Current projects: Eco Forestry prototype, N.S.; Dormitory, Marlboro College, Marlboro, Vt.; Messinger House, Upper Kingsburg, N.S.; Bergel House, Port Hebert, N.S.
Completed projects: Howard House, West Pennant, N.S.; Addition, School of Architecture, Technical University of Nova Scotia, Halifax; White-Leger House, Bayfield, N.S.; Yawkey Cottage, Blanche Peninsula, N.S.
Academic activities: Professor of architecture at Dalhousie University (recently joined with T.U.N.S.); Bullock Chair, Texas A&M; visiting professor, Harvard GSD

"MY PROJECTS BENEFIT FROM BEING SMALL AND INEXPENSIVE."





Ray Huff & Mario Gooden
South Carolina

Architect/firm: Huff + Gooden Architects, LLC, Charleston
Date founded: 1997
Design staff: 4
Current projects include: In Charleston, S. C.—Mary Ford Elementary School; Herbert Hasell Aquatic Facility; Museum of History & Science; St. Stephen United Methodist Church, Orangeburg, S.C.
Academic activities: Ray Huff—professor of architecture at Clemson Univ. Architecture Center, Charleston; previously visiting professor at Yale Univ. School of Architecture; director of Clemson Univ. Architecture Center. Mario Gooden—professor of architecture at Univ. of Florida, Gainesville; previously visiting professor at Univ. of Arizona, Tucson; SCI-ARC; and Clemson Univ. Architecture Center; adjunct asst. professor at Columbia University

"WE SEE MODERN ARCHITECTURE AS AN INTERPRETATION AND TRANSLATION OF CULTURAL AND GEOGRAPHIC SITUATIONS."





Bart Prince
New Mexico

Architect/firm: Bart Prince, Albuquerque
Date founded: 1973
Design staff: 3–4
Current projects include: Lever/Morgenthaler Residence, Malibu, Calif.; Skilken Residence, Columbus, Ohio; Whitmore Residence, Santa Fe; Parsifal Townhomes, Albuquerque; Groves Residence, Laguna Beach, Calif.; Quemazon Townhomes, Los Alamos, N. Mex.; Unitarian Church, Rio Rancho, N. Mex.
Completed projects: Numerous projects in Calif., N. Mex., Ariz., Hawaii, Idaho, and Ohio
Academic activities: Taught design studios at Miami University, Oxford, Ohio; University of North Carolina, Charlotte; University of Oklahoma; University of New Mexico

"I WORK FROM THE INSIDE OUT TO SHAPE SPACE IN AN INTERESTING, FUNCTIONAL, AND UNUSUAL WAY."



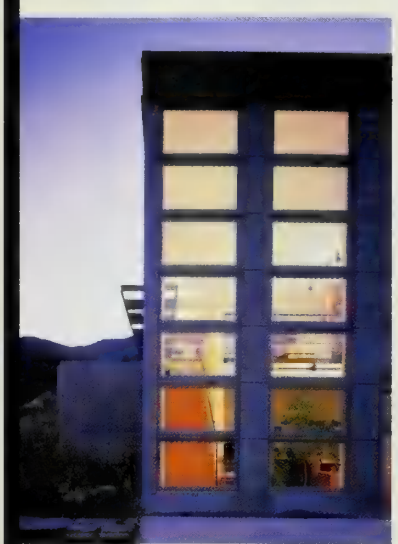




Elizabeth Wright Ingraham
Colorado

Architect/firm: Elizabeth Wright Ingraham Architects, Colorado Springs, Colo.
Date founded: 1983
Design staff: 2
Current projects: Technics Laboratory, Wright-Ingraham Institute, Running Creek Field Station, Colorado Springs; Senior Housing, Pueblo, Colo.
Completed projects: Vista Grande Community Church, Colorado Springs; Cole Heights House, Colorado Springs; various houses and retrofit projects
Professional activities: President-elect, AIA Colorado; board of directors, Colorado Community Design Network; dean's advisory board, Department of Architecture and Planning, University of Colorado

"I WANT TO CREATE A STRONG AESTHETIC PRESENCE USING STRUCTURAL PRINCIPLES AND ENVIRONMENTAL SENSITIVITY."

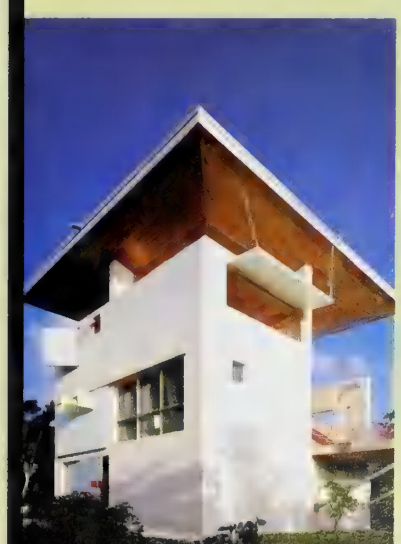




Frank Harmon
North Carolina

Architect/firm: Frank Harmon Architect, Raleigh
Date founded: 1981
Design staff: 10
Current projects: Visitors Education Center for the North Carolina Botanical Garden, Chapel Hill; Penland School of Crafts Iron Studio, Penland, N.C., Plymouth Light House, Plymouth, N.C.; Rosenthal-Herschfield Residence, Hillsborough, N.C.
Completed projects: North Carolina Pottery Center, Seagrove, N.C.; North Carolina Farm Bureau Administration building, Raleigh; Walter B. Jones Center for the Sounds, Columbia, N.C.; North Carolina Estuarium Washington, N.C.
Academic activities: Associate professor, College of Design at North Carolina State University; columnist for *The Independent* newspaper

"LIKE A POET USES COMMON WORDS TO CREATE WONDER, WE USE COMMON MATERIALS TO CREATE BEAUTY."





The client wanted a tree house like the one he remembered from his childhood, but Blackwell persuaded him to build a house in the trees instead.





Marlon Blackwell's elegant and poetic style uplifts the Arkansas hills

By David Dillon

Marlon Blackwell was born in Germany, grew up in Florida and the Philippines, studied architecture at Auburn, worked in Boston, taught at Syracuse, and in 1992, at the age of 35, migrated to Fayetteville, Ark. It's understandable that someone who has moved so often might finally decide to settle in and stay put; but why Fayetteville, a sleepy university town on the road to nowhere?

"Because I can get things built here" is his response. It is a pragmatic answer and Marlon Blackwell is a pragmatic architect, an anatomist of the ordinary and the everyday, a detail guy for whom touch comes before form. He enjoys dealing directly with contractors and craftsmen, and can drive to most of his projects in 30 minutes. He likes teaching and is fascinated by the Ozarks with their blend of old farmland, new trailer parks, and shopping malls. It's the perfect test of the hypothesis that good architecture can happen anywhere.

"There are too many architects on the road these days," he insists, "and it shows up in their work. I realized I couldn't just keep on moving. I had to get to know a place and allow it to shape what I do."

Marlon Blackwell's work grows unmistakably out of its place, though without the sappy scenography often associated with regionalism. He's attuned to what his architect friend Chris Risher calls "local form"—form that emerges from existing conditions, however mundane, rather than from back issues of architecture magazines. Like a guerrilla, he operates just below the radar, exploring the dark corners, taking nothing for granted.

One example is the Moore HoneyHouse in Cashiers, N.C. Blackwell invigorated the practice of beekeeping by designing an elegant 8-by-24-foot wooden box with a honeycomb wall of steel and faceted glass that functions like an elongated vitrine. Jars of golden honey sparkle in light that changes with the seasons and the time of day. This intricate element, primarily voids yet load-bearing, highlights Blackwell's interest in the wall as both a boundary and a threshold.

The Flynn-Schmitt BarnHouse in Washington County, Ark., is a more ambitious example of the same attitude. The first floor is a combination stable and garage for the owners' vintage cars, while the living quarters stretch across the second floor like an elevated trailer home. The primary facade consists of wood and concrete block, with the paddock fence continuing across the front to create a layered effect. The other surfaces are treated plywood and agricultural metal panels, which explains the $40-per-square-foot construction cost and the look of inevitability.

The ordinary and the poetic achieve their most refined synthesis in the Keenan TowerHouse, an 82-foot aerie overlooking Fayetteville. The steel superstructure is similar to a fire tower, framed at the bottom with beveled oak slats that recall the textured bark on native trees and covered above with white metal panels that resemble corn husks. Visitors ascend an open staircase to a spare, almost Miesian living area with panoramic views. Above is a deck for dining and sunbathing, where the sky becomes the focus

Contributing Editor David Dillon is the architecture critic for the Dallas Morning News *and the author of six books, most recently* The Architecture of O'Neil Ford: Celebrating Place *(University of Texas Press).*



Keenan TowerHouse
Fayetteville, Ark.

The TowerHouse sits on a rolling 57-acre site surrounded by native hickory and white oak trees (previous page). The combination of wood and white metal panels (below) connects the tower to both natural and industrial landscapes. The edges of the oak fins (opposite, top) have been beveled to catch light and enhance shadows. Guests pass through a modular steel doorway (below) to a courtyard of creek stones and pecan shells (opposite, left) and climb an open staircase (opposite, right) to the living area. The basic structural system is similar to a fire tower. Guests climb a narrow interior staircase to the living space (next spread), which offers panoramic views of the horizon. On the roof deck (next spread) views are carefully controlled by the size and placement of the openings.

Credits/sources
Project: *Keenan TowerHouse, Fayetteville, Ark.*
Architect: *Marlon Blackwell, AIA, project designer; Meryati Johari-Blackwell, Dianne Meek, Phil Hatfield, assistants*
Owner: *James Keenan*
Engineer: *Joseph Looney & Associates*
General contractor: *Razorback Ironworks & Pizzini & Don Lourie*
Steel: *A & S Windows*
Metal doors: *Wesche Company*

and views of the landscape are carefully framed.

The TowerHouse was too bold for some townspeople, who tried to stop its construction. But as Blackwell points out, it is only one of a dozen towers around town used for everything from water and communications to grain and cement. Viewed in this broader context, the TowerHouse becomes a refinement of the local vernacular.

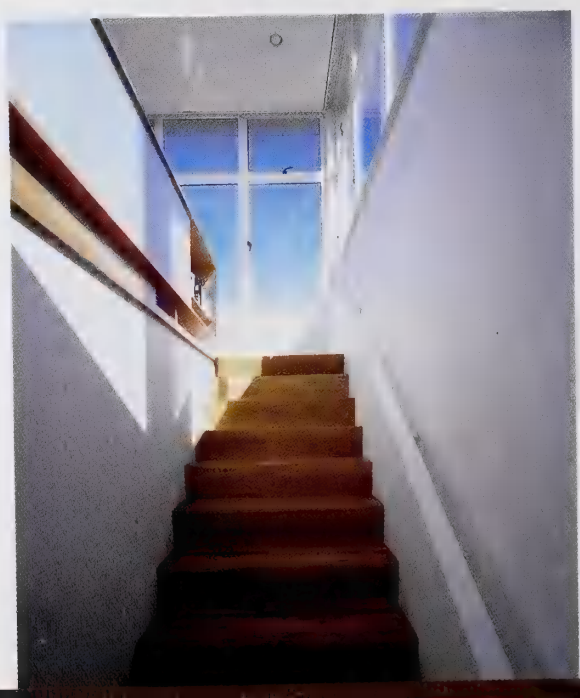
Marlon Blackwell's romance with Fayetteville hasn't blinded him to the fact that it is also a cultural backwater with a Wal-Mart sensibility. Big and cheap and lots of it is the program for much of what gets built there. Yet he reminds himself that Fay Jones, Edward Durell Stone, and others managed to create distinguished architecture out of such conditions. "All these new typologies prevent me from idealizing the landscape," he explains. "I stand in the middle of town and see mid-rise buildings, highways, feed mills, relay towers, and mountains. The line between city and country is blurred, and the whole idea of identity is in flux. For an architect who likes to read between the lines, that can be a huge advantage." ■

WWW For more information on Marlon Blackwell and his work, go to Projects at **www.architecturalrecord.com**

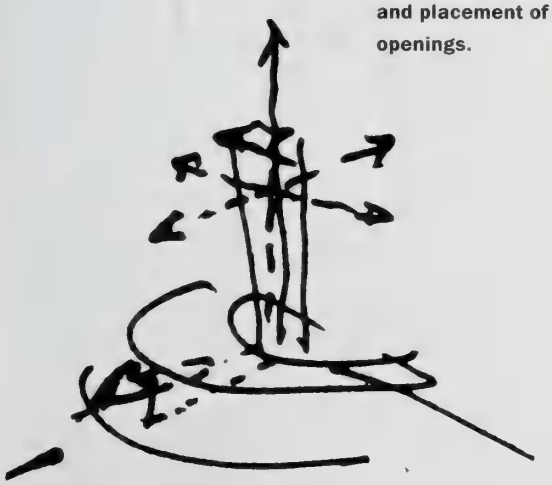


PHOTOGRAPHY © TIM HURSLEY

"I'D LIKE MY WORK TO PROVIDE MATERIAL EVIDENCE THAT AN ARCHITECTURE OF THE HIGHEST ASPIRATIONS IS POSSIBLE FOR ANY PROGRAM AND IN ANY PLACE."



On the roof deck views are carefully controlled by the size and placement of the openings.







The Moure Honey House in Cashiers, N.C., has a project with a mundane program—beekeeping—and it could have ended up as little more than a roadside display.





Moore HoneyHouse
Cashiers, N.C.

The HoneyHouse (opposite) consists of an 8-by-24-foot hive box with a hovering carport for the owner. Both structures are constructed of tongue-and-groove pine boards and tubular steel. The house is set on concrete blocks (left) to protect the honey from insects. The display wall (bottom) is an intricate assemblage of steel and angled glass which, depending on the season and the time of year, appears transparent, translucent, or opaque. Because of local labor problems, the steel elements had to be fabricated in Arkansas and transported to North Carolina. Construction took three weeks.

Credits/sources

Project: *Moore HoneyHouse, Cashiers, N.C.*
Architect: *Marlon Blackwell, AIA, project designer; Meryati Johari-Blackwell, Dianne Meek, Phil Hatfield, assistants*
Owner: *June Moore*
Engineer: *Joseph Looney and Associates, Structural Engineering*
General contractor: *Razorback Ironworks & Pat Meek*
Steel: *A&S Windows*
Lighting: *Stonco (ambient)*
Sink: *American Standard*
Locksets: *Schlage*







Flynn-Schmitt BarnHouse
Washington County, Ark.

The BarnHouse occupies a thickly wooded site at the edge of an escarpment. The primary facade (left) consists of wood and concrete block, with the grid serving as an extension of the paddock (bottom right). The living area (bottom left) is long and linear, like a house trailer, with sloping plywood ceiling and tall clerestory windows that offer sweeping views of the surrounding landscape. The lower floor (opposite) has the spare, utilitarian feel of a garage or storage shed, with concrete floors, block walls, and tall ceilings. A horse stable is attached to one end. The entire space is connected to the living area by tall narrow windows.

Credits/sources
Project: *Flynn-Schmitt Barnhouse, Washington County, Ark.*
Architect: *Marlon Blackwell,* AIA
Owner: *George Schmitt*
Engineer: *Joseph Looney and Associates, Structural Engineering*
General contractor: *Tubb Robinson*
Metal siding: *Vicwest Steel*
Aluminum: *EFCO Windows*
Plastic laminate: *Formica*
Lighting: *Lightolier (interior ambient); Stonco (exterior)*





The basic form of the Flynn-Schmitt BarnHouse in Washington County, Ark., derives from the vernacular pole barn, with tall vertical elements supporting a simple shed roof.

Brian MacKay-Lyons sharpens up the vernacular forms of Nova Scotia

By Suzanne Stephens

He is considered a leading proponent of regional, vernacular design, yet is innovative and edgy enough to be part of last year's "Emerging Voices" series organized by the New York Architectural League. His architecture is a clean and crisp retooling of the regional forms and construction techniques seen in the boats, barns, and sheds indigenous to Nova Scotia. It may seem strange to seek a timelessness and find one's architecture is of the present moment, or to look to the local and arrive at the universal: "Irony is the first principle of life," MacKay-Lyons explains. "You can start from there." Ironically, he started off wanting to be a drummer. But the recognition that he could draw changed things. Moreover, the 46-year-old architect was steeped in the vernacular tradition: He grew up in Arcadia, near a village where French ancestors on his mother's side settled almost 400 years ago.

For a while MacKay-Lyons stayed in this maritime province. He got his B.Arch. at the Technical University of Nova Scotia in 1978, where he met and subsequently opened an office with one of his professors, Larry Richards. Then, in 1980, he went to UCLA to get an M.Arch., studying with, and working for, Charles Moore. Moore's pioneering community participation workshops were to influence MacKay-Lyons when he returned to Nova Scotia in 1983 after a stint in Sienna with Giancarlo de Carlo. Besides Moore and de Carlo, MacKay-Lyons overtly acknowledges the influence of Louis Kahn, Mies, and Wright.

While residential projects have been the staple of MacKay-Lyons' 15-year-old practice, in 1993 he turned the difficult corner of going from small-scale to large-scale work. First he designed an addition to the Technical University of Nova Scotia's architecture school, then, in 1999, he completed Dalhousie University's Faculty of Computer Science.

MACKAY-LYONS WAS STEEPED IN THE VERNACULAR, GROWING UP WHERE HIS ANCESTORS SETTLED IN THE 1600S.

Yet simple, well-articulated houses remain a *specialité de maison*. Indeed, MacKay-Lyons and computer scientist Andrew Rau-Chaplin are working on an Internet-based residential architectural service,"LaHave," that incorporates three types of software for design generation, visualization through modeling, and production of working drawings. It could spawn a "quadrillion" houses according to his principles, MacKay-Lyons conjectures.

Another visionary project is the prototype design for the Eco Forestry Shed. Placed in a forest, the shed could accommodate drying and milling of the cut wood, which would then be moved to the construction site without having to go to a factory. "We'd just use the computer," says MacKay-Lyons."Later the shed would become a cabin for eco-tourism."

It may seem odd that the proponent of a regional vernacular and a timeless tradition seeks to be closely linked to the new economy. But then that is what irony is all about. ■

WWW For more information on Brian MacKay-Lyons and his work, go to Projects at **www.architecturalrecord.com**

Ghost
Upper Kingsburg
Nova Scotia

On the "Back 40" of Brian MacKay-Lyons' weekend farm, he and his architecture students from the Technical University of Nova Scotia built a wind tube structure in 1997. It had no "real" function except to give the students a three-dimensional visual understanding of wind shear and other lessons about working with the landscape and local technology. The "ghost" was also commemorative: Built on the ruins of a 400-year-old village, its translucent plastic panels provided projection screens for a tribute to the village matriarch, Beulah Oxner. The wind tube has a standing foundation of wood logs found on the property, topped by a platform of two-by-fours on a 12-foot grid with double studs every 12 feet and single studs every four feet. Bays are given braced or rigid connections to withstand the wind; horizontal one-by-threes provide strapping (or "whalers") to give vertical support to the polycarbonate panels.

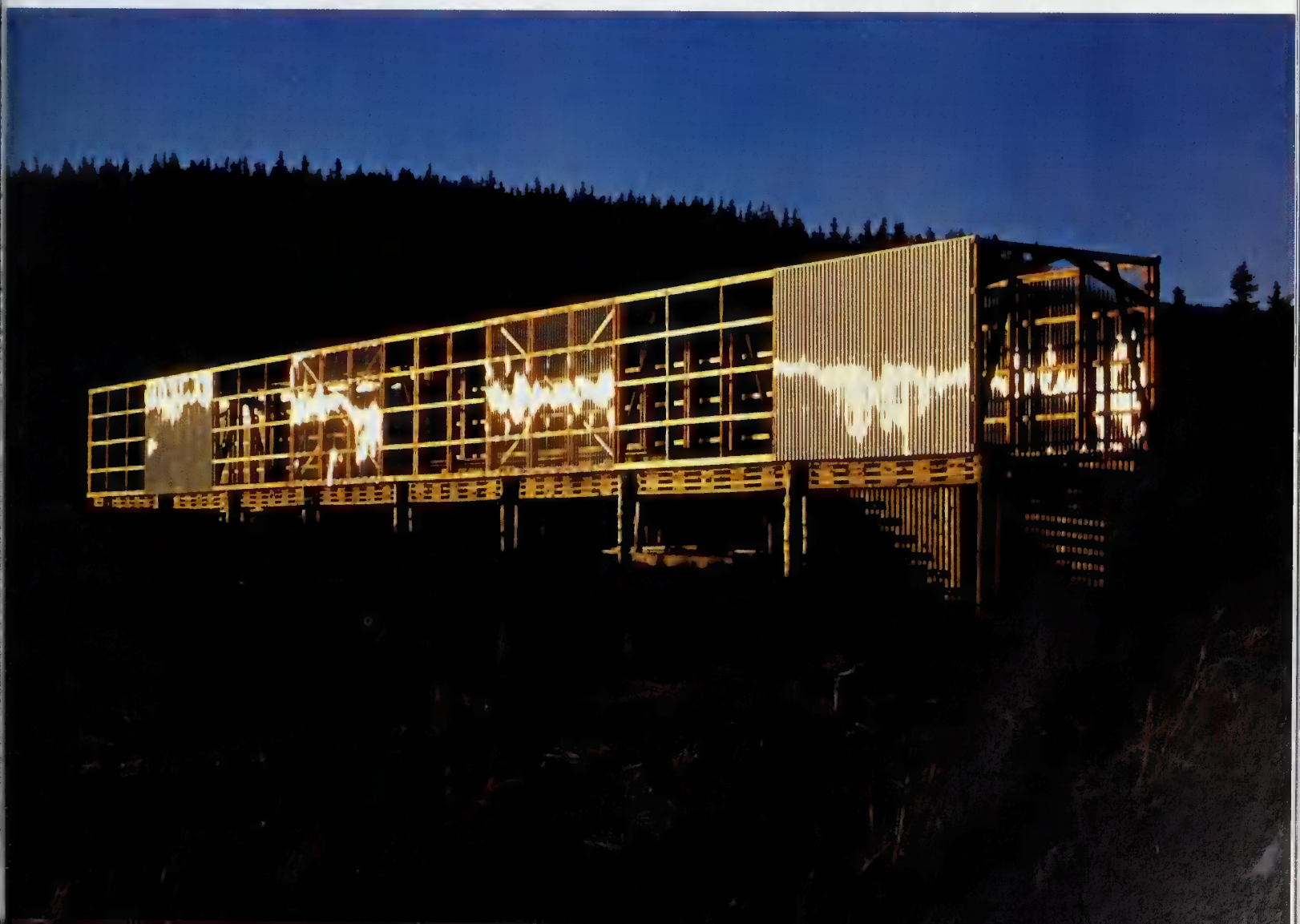
Credits/sources
Design/build team: *Brian MacKay-Lyons, Mehira Ebdel Aziz, Ben Duffell, Mike Farrar, Nicola Grigg, Ron Isaac, Viktoria Mygoro, Richard Nowlan, Trevor Thimm, Krista Wuerr*
Lumber: *Nova Scotia Building Supplies*
Polycarbonate: *Vic-West*

PHOTOGRAPHY © BRIAN MACKAY-LYONS



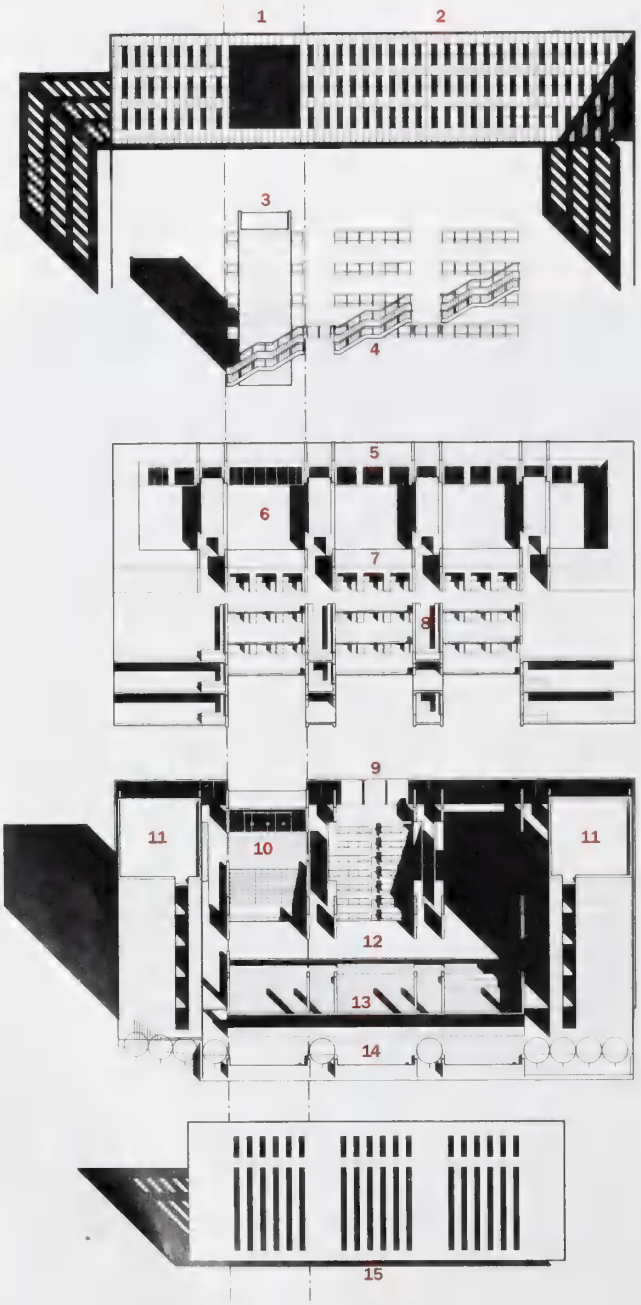


The design/build team of students and professor Brian MacKay-Lyons (right above) erected the wind tube tunnel. Dimensioned lumber and polycarbonate panels rest on a log base.









EXPLODED AXONOMETRIC

1. *Enter*
2. *North wall*
3. *Elevator*
4. *Atrium stairs*
5. *Offices*
6. *Lab spaces*
7. *Student cubicles*
8. *Study bridges*
9. *Theater*
10. *Lobby*
11. *Core*
12. *Atrium*
13. *Cyber cafe*
14. *Gardens*
15. *South wall*

Dalhousie Faculty of Computer Science
Halifax

A 1991 master plan for Dalhousie University in Halifax that MacKay-Lyons took on (with Charles Moore, Giancarlo de Carlo, William Mitchell of MIT, and Atilio Gobbi) in 1998 resulted in a 65,000-square-foot computer science building for the campus, which is now part of Technical University.

The poured-in-place concrete structure (above) has a matte-finished zinc curtain wall that is reminiscent of Kahn's Mellon Center at Yale: The opaque, planar wall seems to float above the butt-jointed, glazed, and recessed base. Inside spaces open up dramatically because of the stair hall (opposite, bottom left) and the adjoining five-story atrium (opposite, top). Served and servant spaces are based on a "tartan grid" plan, with alternating 30-foot and ten-foot bays.

Credits/sources

Design architect: *Brian MacKay-Lyons, principal; Talbot Sweetapple, project architect*

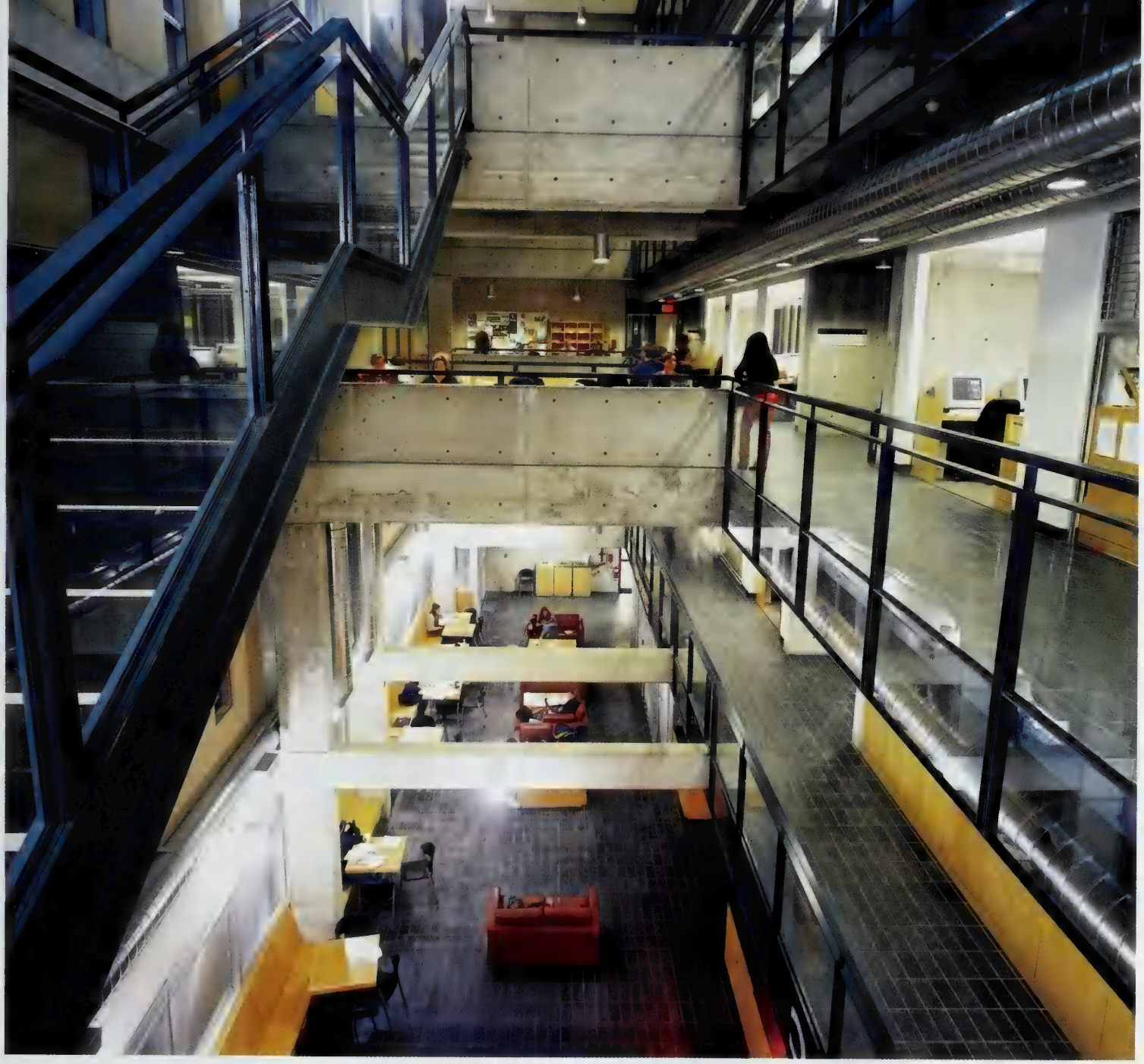
Architect and prime consultant: *Fowler Bauld & Mitchell Architects, George Coteras, project architect*

Consultants: *William Mitchell (special consultant); Campbell Comeau Engineering (structural); Morris and Richards (mechanical and electrical)*

Zinc panels: *Rheinzinc*

Curtain wall system: *Alumacore*

PHOTOGRAPHY: © JAMES STEEVES (TOP LEFT); CHRIS PEARSON (TOP RIGHT)















Kutcher House
Herring Cove, Nova Scotia

Perched on a 100-foot-long granite outcropping, this year-round house for a psychiatrist, a social worker, and their children embraces panoramic views of the Atlantic. MacKay-Lyons designed the long, rectilinear house so that one enters from the rear (above) and at one end, first walking through a portal onto the terrace, where suddenly the water view opens up.

The enclosing roof adopts an angular, hooded shape with a standing-seam folded metal skin cladding the structure's purlins and trusses. The open, rectilinear plan stretches 40 feet for the main living, dining, and kitchen areas, book-ended by two large fireplaces. The water's horizon line, seen through the expanse of sliding glass panels, is echoed in the 22-foot-long kitchen counter, while the rear, north wall is closed off by wood and a low concrete base wall. Interior support is provided by five pairs of steel I-columns, plus Douglas fir fins for wind bracing.

Credits/sources
Architect: *Brian MacKay-Lyons, Rob Meyer, Trevor Davies (project team)*
Structural: *Campbell Comeau Eng.*
Roof material: *Galvalum*
Roof system: *Engelert*
Glass curtain wall: *Alumacore*
Glass: *Southshore Glass*

PHOTOGRAPHY: © JAMES STEEVES



The house rests against a granite outcropping; stairs lead up to an elevated living room with an expansive view of the ocean.

Huff + Gooden shapes a socially vital Modernism in traditional South Carolina

By Lynn Nesmith

Architects Ray Huff and Mario Gooden are inspired, not daunted, by the traditions of Charleston, S.C. Local residents have long maintained that the Cooper and Ashley Rivers form the great Atlantic Ocean. Yet by other accounts, the vortex of contemporary architecture is at the convergence of the Hudson and East Rivers (apologies to L.A.). But geographical parameters are changing: Top commissions are no longer the exclusive domain of big-city firms, and architects Ray Huff and Mario Gooden, both South Carolina natives, are finding the climate of this southeastern city conducive to the way they want to practice.

In 1980 Huff returned to Charleston from Clemson, S.C., to establish a small office. After completing a B.Arch. in Clemson, he'd practiced there for eight years. "Though the country was in a recession, we had institutional and public work, and managed to do okay," he recalls.

With a population near 80,000, Charleston is hardly a major metropolis, yet few American cities are more urban and urbane. Drawing on this strength, Clemson University's architecture school, with the College of Charleston, established an urban studio in historic Charleston in 1988 and named Huff director.

When Gooden came to the program in 1991 as a visiting faculty member, Huff recognized talent and hired him as an employee. After completing an M. Arch. at Columbia University and working for architects Zaha Hadid in London and Steven Holl in New York, Gooden returned to South Carolina in 1997 to form Huff + Gooden Architects. At 35, Gooden comes across as intellectually agile and confident, complementing Huff's more professorial demeanor. Apparently the combination is working.

The practice is a collaborative partnership. Huff and Gooden share design, management, and client-presentation responsibilities. Though one partner oversees each project, the entire four-person firm, like an atelier, is involved in discussing, developing, and realizing a design.

Charleston may not be famous for embracing contemporary architecture, but Huff and Gooden fearlessly call themselves Modernists. "We have a solid base here with the kind of projects that are dear to us," says Huff of an architecture that gives something back to the community, including urban and rural public schools and churches around the state. The practice responsibly engages debates on the role of architecture, as well as on social and cultural issues. And both partners remain connected to a more global architectural community through teaching in major architecture schools across the nation.

The firm's principals both happen to be African-American, but they eschew defining their partnership as such. "We oppose labels," Gooden asserts, preferring to let the work characterize the practice. Huff adds, "We belong to Charleston's minority group of self-avowed Modernists."

Though they don't consider themselves Regionalists, both architects consciously decided to practice outside a major metropolis. "I wanted to remove myself from the din of other voices," says Gooden. "Charleston allows us to establish our own voice. Now we can turn up the volume." ■

WWW For more information about Huff and Gooden and their work, go to Projects at **www.architecturalrecord.com**



1890 Conference Center
Elloree, S.C.

Sited on the grounds of the historic Camp Harry Daniels, this 270-acre campus—which includes a lake, nature trails, cabins, meeting rooms, and playing fields—provides a conference venue for South Carolina State University. The cabins, nestled in a dense forest, sleep 32 people, while the meeting facility can accommodate 350. The main meeting room opens to spectacular views overlooking a lawn that slopes down toward the lake. Like much of Huff + Gooden's built work, this project, dating from 1996, was completed when Gooden was Huff's employee, before they'd formed an official partnership.

Credits/sources
Architect: *Ray Huff Architects—Ray Huff, principal-in-charge; Mario Gooden, project designer; Jerry Ballinger, project architect; Forrest Hooker, project team*
Engineer: *Stevens & Wilkinson, Inc.*
General contractor: *Florence Builders*
Canopy: *Sequentia (corrugated fiberglass)*
Storefront: *Kawneer (aluminum)*
Waterproofing: *Thoroseal*

PHOTOGRAPHY: © HUFF + GOODEN ARCHITECTS

Beach Residence
Sullivan's Island, S.C.

When commissioned to design a new beach house to replace a structure destroyed by Hurricane Hugo, Huff and Gooden diverged from the prevailing vacation-home typology. They created a house with three main components: a latticed wooden screen or "scrim," a concrete cube containing the living areas, and a linear bedroom wing. One enters from the ground floor and moves between the screen and cube before stepping into the house proper. The arrangement erases indoor/outdoor divisions, creating comfortable spaces suited to the climate and setting. This contemporary composition with in-between places abstractly recalls traditional Charleston houses without stooping to the level of pastiche. Sited on axis with World War II bunkers, the house also echoes the stance and spatial arrangements of those military structures. Structurally, the screen stands on exposed grade-beam pads, which visually ground the latticed wall, while the raised cube appears to float on exposed pilings. This unusual condition minimizes damage from storm surges.

Credits/sources

Architect: *Ray Huff Architects—Ray Huff, principal-in-charge; Mario Gooden, project team*
Interior designer: *Karen Everhart*
Engineer: *Shoolbred Engineers (structural)*
General contractor: *Trudeau Construction Company*
Windows: *Caradco (casement)*
Lattice: *Farmed redwood*
Wood trim: *Cedar*
Cladding: *James Hardie Building Products (cementitious fiberboard)*







Murray-LaSaine School, Charleston

This elegant addition to the Murray-Lasaine Elementary School is a freestanding four-classroom annex that was designed to accommodate future expansion. A heavy wall at its outer edge is punctured by exaggerated openings that would easily allow for air-conditioning feeds and the symmetrical placement of a twin four-classroom building in the future. A walkway covered by curved corrugated-steel panels links the addition to the preexisting school building.

Credits/sources

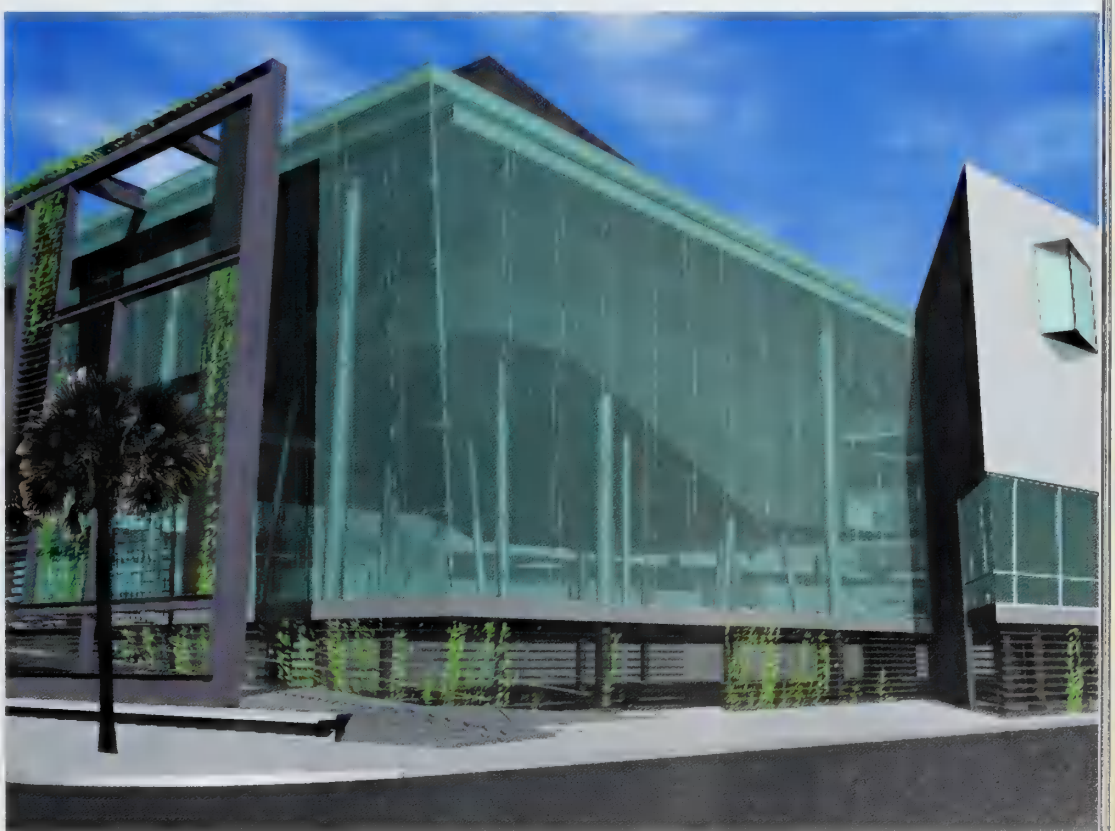
Architect: *Ray Huff Architects—Ray Huff, principal-in-charge; Mario Gooden, Jerry Ballinger, Ron Delaney, project team*
Engineer: *Engineering Surveying & Planning (structural); Orbital Engineering (mechanical and electric)*
General contractor: *Florence Builders*
Glass block: *Pittsburgh Corning*
Clerestory: *Kawneer (aluminum framed)*



PHOTOGRAPHY: © ROBERT STARLING PHOTOGRAPHY

History & Science Museum
Charleston

Yet unbuilt, this project proposes an electronic-age museum in the urban and architectural context of Charleston. Designed in response to a request for proposals—calling for an educational program on a 1.25-acre site—this museum of history and science relies entirely on non-object-based exhibits, presenting only virtual imagery. At the same time, however, it was also envisioned as a real building (visitors inhabit it physically, rather than merely click onto its digital displays from home computers), prompting its designers to investigate the architectural and experiential implications of a space with exclusively electronic displays. Accordingly, Huff + Gooden's strategy, using spatial layering, tilting, and "choreography," considers the building's exterior and interior landscapes—its urban, spatial, and tectonic conditions—as well as its cultural setting.





Bart Prince stirs up a sense of wonder in a vast Southwestern landscape

By Christopher Curtis Mead

The architecture of Bart Prince invites rhetorical excess. Instantly recognized yet unfamiliar, its sculpturally suggestive, structurally theatrical forms resist description through ordinary words. Buildings are likened to sharks and spaceships in the hope that frenzied metaphors might express our wonder that something as mundane as a house could ever look so exotic. Curious people cluster outside my Prince-designed home on weekends, pointing and commenting. Wondering what it is like to inhabit such a place, they assume that this radical architecture requires equally eccentric habits of living.

Frank Lloyd Wright's Prairie houses provoked similar responses a century ago, and for the same, finally ordinary reason that they expressed the social realities and constructional possibilities of their time free of any fictional pretense to past conventions. Prince just as matter-of-factly grounds his projects in the present specificities of site, client, program, budget, and materials. Results that strike us as surprising are to him simply the logical consequence of dealing with a project's constraints without any preconceptions beyond an open mind and an eye on current needs and opportunities.

A fourth-generation New Mexican, Prince works at the margins of fashion. In New Mexico's vast landscape, the natural continuities of mountain ranges and desert plains cut across the legal abstractions of modern borders and the physical traces of successive peoples who have settled the land. As J.B. Jackson observed in *A Sense of Place, A Sense of Time*, New Mexico is "the place where we see most clearly the impact of time on a landscape." This variability of place corrects, in Prince's view, the common perception of New Mexico as a singular land of enchantment characterized by its tradition of flat-roofed adobe buildings. The regional myth that has turned Santa Fe into the adoboid simulacrum of a rural village for New Age refugees from Hollywood or Manhattan is not for him. At home in Albuquerque, he lives in a present of automobiles, sprawl, strip malls, fast food, and popular entertainment. Like Bruce Goff, with whom he apprenticed after studying architecture at Arizona State University, Prince challenges the timid orthodoxies of respectable taste by engaging in his work the vernaculars of contemporary society.

Prince creates a stubbornly individual architecture that comments on the particulars of its place in time as much as in space. His work is an anomaly in our age of publicity, when differences of history are homogenized into the spectacle of Las Vegas and when architecture aims at the glossy imagery of reproduction. Prince never repeats a design—each is a unique solution to the infinite problems of creating a place. Instead, he organizes every site into spaces of experience that make us newly aware of what it means to inhabit the world. ■

Author of The Architecture of Bart Prince: A Pragmatics of Place *(Norton, 1999), Christopher Mead is professor of Architecture and of Art History at the University of New Mexico, and president of the Society of Architectural Historians.*

WWW For more information about Bart Prince and his work, go to Projects at **www.architecturalrecord.com**

Mead-Penhall Residence
Albuquerque

Rising diagonally above its neighbors on a suburban lot, the Mead-Penhall Residence is sheltered behind a northwest facade turned protectively to the street (below and opposite). Concrete block, 2x6 timber framing, plywood sheathing, stucco finish, and corrugated sheet metal make the most of a tight budget. The main spaces pool upstairs in a single volume, extending 100 feet and shaped in plan and elevation by a gentle arc that modulates the interior into different living areas. With walls of rough-sawn cedar plywood and a ceiling measured by plywood truss joists, this navelike room radiates outward to the horizon.

Credits/sources
Architect: *Bart Prince, principal-in-charge; J. Kory Baker, documents*
Owner: *Christopher Curtis Mead/Michele M. Penhall*
Engineer: *Augie Mosimann, Engineering Associates*
General contractor: *Owner, with Martin F.M. Grummer, project manager*
Metal siding: *Barnmaster Co.*









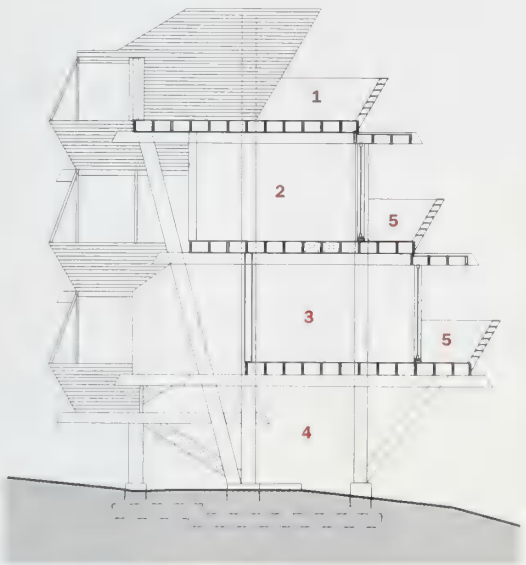
Borden-Wiegner Residence
Jemez Springs, N.M.

The Borden-Wiegner Residence rises beside the Jemez River in a twisting valley edged by sandstone cliffs climbing to a brilliantly blue New Mexican sky. Because it stands in a flood plain, the house, like a stranded ark, is hoisted 15 feet above the riverbanks on untreated telephone poles. Glulam beams bolted to this frame hold trays of living space that angle outward past walls of Exolite and corrugated sheet metal to balconies with balustrades assembled from metal studs. A sketch in light dappled by cottonwoods and aspen, this product of industry makes an eloquently visual homage to the beautiful site.

Credits/sources

Architect: *Bart Prince, design/principal-in-charge; J. Kory Baker, construction documents*
Owner: *Robert Borden/Kathleen Wiegner*
Engineer: *Engineering Associates*
General contractor: *Duramax Construction*
Roofing: *J.P. Stevens Membrane/Lone Mountain Contracting*
Metal siding: *Barnmaster Co.*

1. *Roof deck*
2. *Master bedroom level*
3. *Main level*
4. *Open through*
5. *Deck*



SECTION

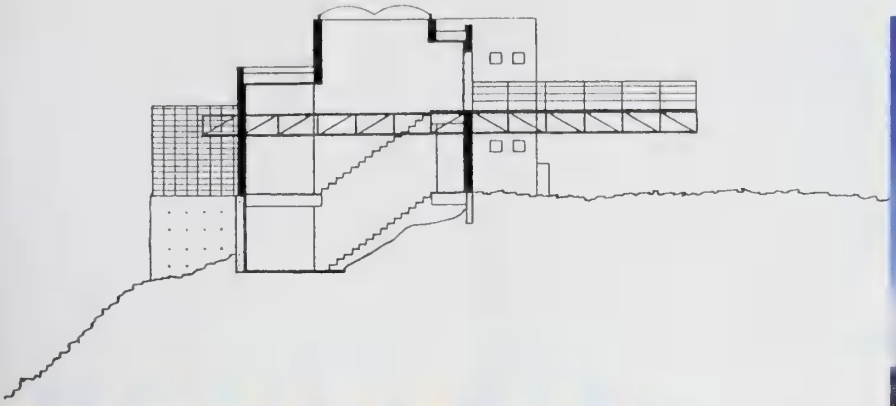


La Casa
Pueblo West, Colo.

Elizabeth Wright Ingraham sees La Casa as an "intervention" on the landscape, not a "statement." The 5,017-square-foot house sits on a soaring cliff outside Colorado Springs, where winds have been clocked at 110 miles per hour. The continuous erosion of the cliff forced Ingraham to place the house back from the edge, but she recaptured the drama of the steep drop with a 27-foot skywalk cantilevered from the second floor. The skywalk is supported by a 58-foot steel truss that pierces the house and adds drama to an otherwise simple plan. The owners, two doctors, can enter the house from the garage through a protected glass-block-lined corridor. Glazed concrete-block walls, concrete terraces, and radiant-heated floors insulate the interior against the extreme temperature changes throughout the day. A rooftop entertainment deck over the study keeps parties free of the rattlesnakes ruling the natural terrain.

Credits/sources
Architect: *Elizabeth Wright Ingraham, principal; Joseph Miller, production*
Glazed structural block: *Spectra Glaze*







Elizabeth Wright Ingraham reaches out to the landscape with rugged forms

By Cynthia Davidson

Hers was an auspicious beginning. Born in a room over the garage in her grandfather's home and studio in Oak Park, Ill., Elizabeth Wright immediately entered a world of architecture. The daughter of architect John Wright and granddaughter of Frank Lloyd Wright, Elizabeth at first wanted to become a physicist. But at 14 she gave up trying to master the concept of infinity and chose, instead, to study and build finite space, to become an architect. "How very original," her mother said upon hearing the news.

Elizabeth Wright Ingraham is a maverick, despite her architectural pedigree. Today, at "seventy-something," she is still working from her own home and studio in Colorado Springs. Her most recent projects, La Casa and the Solaz house, each won Colorado AIA Design Awards, and she was just elected the Colorado AIA president 2002. It is, she says, "a little bit of a pulpit," from which she plans to do a little preaching to the unconverted. "I'm fed up with the public image of architects. Architects have a good reputation but no one uses them. Architecture can lift the spirits of a whole town, can give you a sense of the future." And then, emphatically, "It's not an old blanket that you drag around."

That blanket was certainly discarded by her oldest daughter, Catherine Ingraham, who began her teaching career in comparative literature and gradually turned to architectural theory, taking the Wright lineage in a whole new direction (she is now chairman of graduate architecture at Pratt Institute). Elizabeth never dragged the Wright legacy around either, but rather built on what she learned at home to make her own mark.

She first studied at Berkeley and then transferred to the Illinois Institute of Technology, when it was still Armour Tech. Mies van der Rohe was the new director, and Elizabeth one of the three female students. During World War II she worked for the Public Works Administration in Puget Sound and headed up a joiner shop; when the war ended, she worked in the Oakland planning department. After marrying architect Gordon Ingraham, she moved back to Chicago and in 1947 got her Illinois license. Gordon worked for the imaginative Modernist George Fred Keck and Elizabeth for Fischer & Fischer, who experimented with prefabricated panels. With the postwar housing demand, architecture in Chicago was booming, but the young Ingraham couple was drawn to the West, "hunting for the pot of gold at the end of the rainbow." They finally settled in Colorado Springs, population 29,000, opened Ingraham and Ingraham, and immediately attracted work. Later, Elizabeth watched the bulldozers excavating tons of earth for the Air Force Academy. It was "a job grandfather tried to get," she said, "but he didn't understand the politics of it."

The academy was only the first of many changes in Colorado Springs. As the population grew (it's half a million now) and development spread, Elizabeth changed too. In 1969, as a working mother with four children and a pending divorce, she founded the not-for-profit Wright-Ingraham Institute because, in short, "Architecture had gone to hell." The institute was housed in wood-and-canvas structures on a 640-acre campus called Running Creek Field Station—an environment reminiscent of the tents at Taliesin West—and offered graduate students a program in ecological and environmental studies, "everything they weren't being taught in school." Ingraham ran the institute for 11 years, putting it "on hold" when the ideas it embodied seemed to have run their course. "The issue is still education," she says today. "You can't make decisions without it." And Running Creek is still there, waiting to be reactivated at the right moment.

In 1983 she returned full-time to practice and opened Elizabeth Wright Ingraham Architects, "just in time for the recession." She laughs a survivor's laugh: The downturn was also an opportunity for study and travel. But she didn't wander far from her early interest in solar energy, block construction, and prefabrication, all evident in the sustainable architecture she builds today.

Though her life has been infused with architecture from the start, her philosophy now comes not from architecture but from the writer George Bernard Shaw, who said that one's life belongs to the whole community. He wanted, Elizabeth says, to be thoroughly used up when he died. It is a compelling idea, and one that clearly appeals to Ingraham as she embarks on the next, political phase of her architectural career. A little passionate preaching for architecture is certain to be on her agenda. ■

Cynthia Davidson is former editor of ANY *magazine. Her critique of the Chancery of the Italian Embassy in Washington, D.C., appeared in the November* RECORD.

WWW For more information on Elizabeth Wright Ingraham and her work, go to Projects at **www.architecturalrecord.com**

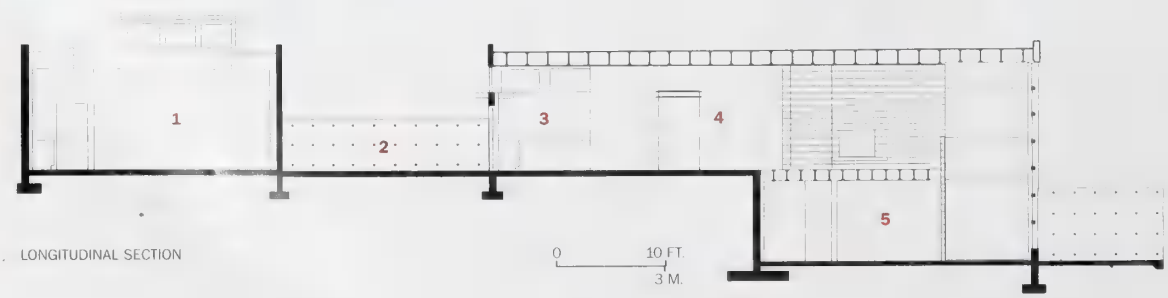




Solaz
Manitou Springs, Colo.

Sustainable architecture that weathers the elements and is easy to maintain is one of Ingraham's priorities. Solaz, a residence and artist's studio for a professional couple, nestles into a hillside beside a tall stand of oaks where it cannot easily be seen from the road. The 3,200-square-foot dwelling is built primarily of durable, unfinished concrete-block walls with a standing-seam metal roof that barely overhangs the facade. To add visual interest, Ingraham penetrated the two long facades with steel brise-soleils that cast shadows inside and out, and support lighting fixtures within. A protected concrete courtyard connects the studio and garage with the house and then flows into a raised terrace along the southeast elevation. The slope of the natural terrain exposes the house as it drops away, allowing a lower-level guest-and-office suite to be inserted underneath the living room (left) and master bedroom.

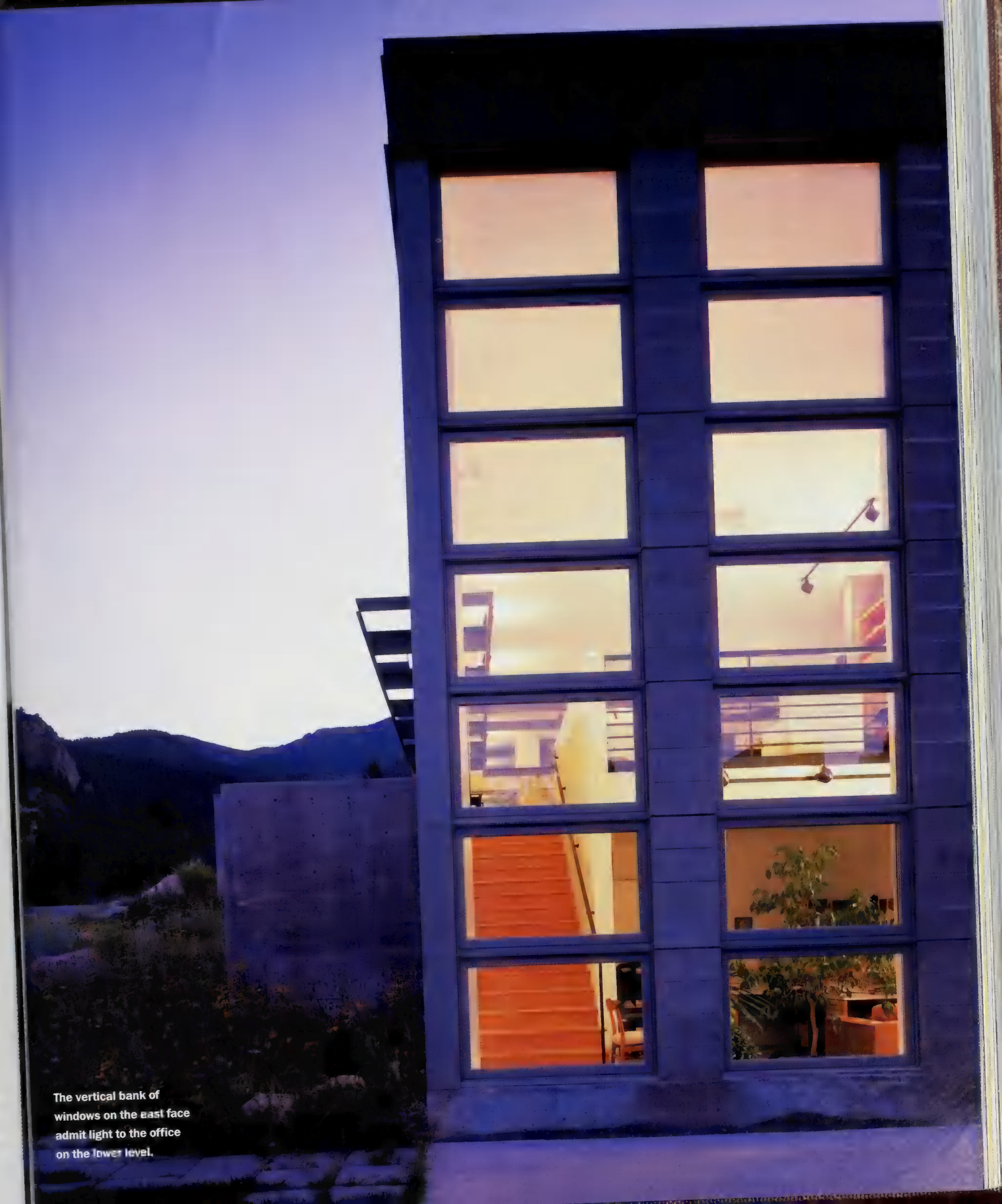
Credits/sources
Architect: *Elizabeth Wright Ingraham, principal; Joseph Miller, production*
Consultants: *HCDA Chris White (structural engineers); Gernot Heindrichsdorf (landscape)*
Windows and glass doors: *Marvin*
Wood doors: *Weyerhauser*



LONGITUDINAL SECTION

1. *Studio*
2. *Courtyard*
3. *Dining room*
4. *Living room*
5. *Office*

PHOTOGRAPHY: © RON POLLARD



The vertical bank of windows on the east face admit light to the office on the lower level.

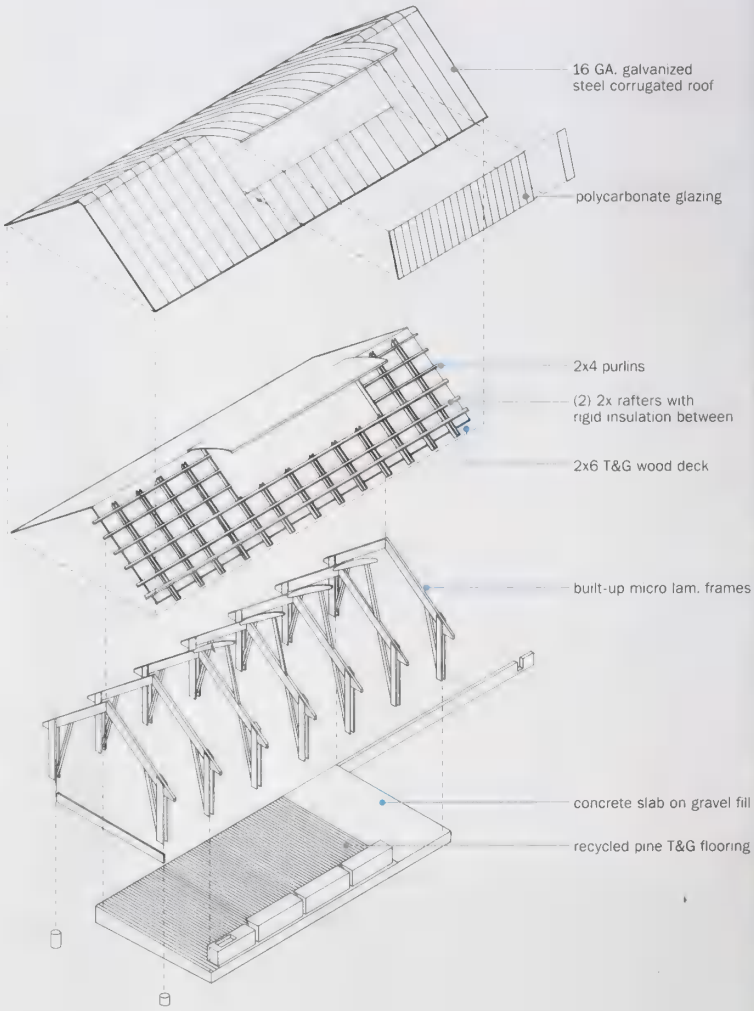
Frank Harmon crafts elegant buildings with simple materials and careful details

By Sara Hart

Frank Harmon's portfolio might be regional, but he draws on influences and experiences beyond his native North Carolina. Although he started his architectural training at North Carolina State University (NCSU) in the 1960s, he moved to London to submerge himself in the city's rich cultural landscape and to spend a year at the Architectural Association (AA). "The AA was the center of the architectural world at that time. Jim Sterling taught there. It was very exciting," recalls Harmon. One year abroad turned into 11 (interrupted by a brief return to New York in the early 1970s to work for Richard Meier), and he started his first practice there.

His decision to return to his home state in 1981 was based on a desire to live and work there, not a retreat from the competition and rigors of New York or London. In fact, Harmon's career disproves the conventional wisdom that challenging commissions and enlightened clients exist only in sophisticated metropolitan centers. "We are selective about which commissions we take. We prefer those projects no one else wants. Either the site is too difficult, or there are other restrictions," he explains. As a result, Harmon's portfolio is filled with comparatively small projects in which he has achieved a remarkable refinement with the humblest materials—plywood, plastic, and corrugated metal.

The projects shown here—the Wainwright Studio in Durham, N.C., and the Taylor House in the Bahamas—are examples of both challenging commissions and enlightened clients. The studio client was a marine biologist who had been a pioneer in biomechanics and the analysis of structure in nature. Now retired, with the opportunity to focus his artistic interests on sculpting, the client asked Harmon to create a space that commented on the craft of construction and that echoed the chiseled nature of his sculptures. Not content to just design a rustic shelter, Harmon upped the stakes by asking the client to allow a team from his office to build it. "Having been a professor himself, he knew the educational value of learning from doing, so he agreed," says Harmon.



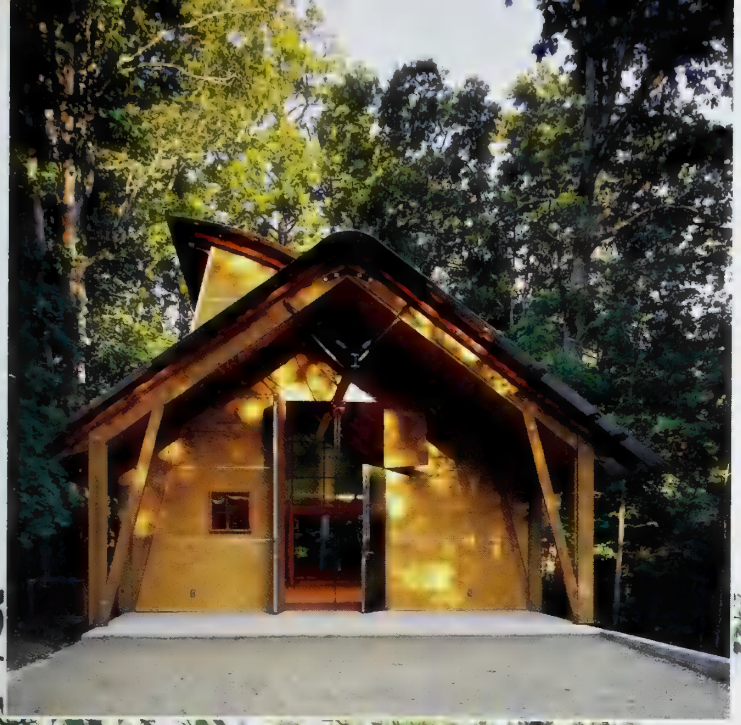
HARMON'S PORTFOLIO IS FILLED WITH SMALL PROJECTS IN WHICH HE HAS ACHIEVED A REMARKABLE REFINEMENT WITH THE HUMBLEST MATERIALS.

Similarly, the materials for the Taylor House came from the local Bahamian hardware store, and again Harmon's architect-as-artisan philosophy compelled him to combine them in unfamiliar ways—cantilevered roof trusses, epoxy-coated hurricane doors.

It's not often practical to build what one designs, but the occasional foray into the construction process has given Harmon a trust in wholesome materials and confidence that he can use them to make elegant spaces. The result is a vernacular modernism as slyly sophisticated as any found in New York or London. ■



PHOTOGRAPHY: © JAMES WEST



A large window and a covered porch (below and opposite page) offer views from the studio to the wooded hillside. The roof has a 2-inch-by-6-inch tongue-and-groove deck. The 16-gauge corrugated, galvanized metal that the architect specified for the roofing material is the same as that used to make curved forms in highway culverts.

Wainwright Studio
Durham, N.C.

A team from Harmon's office designed and built this 1,188-square-foot sculpture studio over the period of a year.

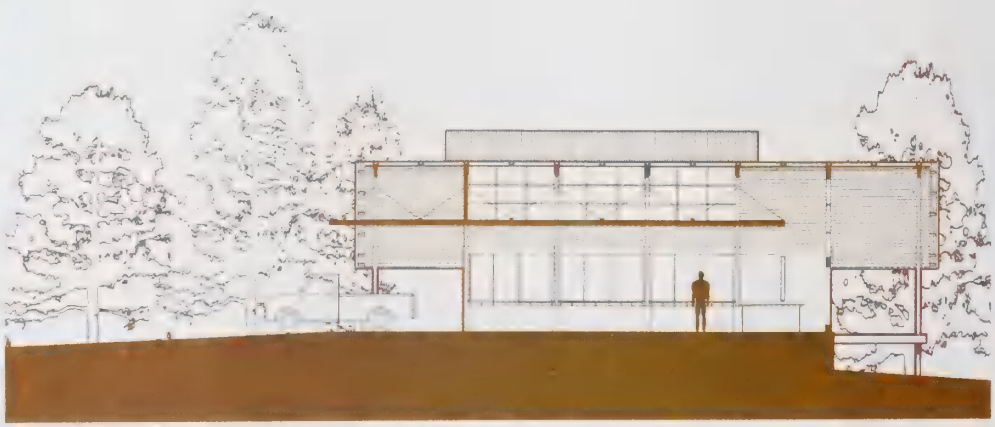
The structure is constructed of built-up frames of microlaminated wood with a 2-by-6-inch tongue-and-groove roof deck. The exterior is clad in galvanized metal. An overhead crane rail (right and below) runs from outside down the center of the studio, allowing the artist to maneuver the one-ton logs from which he chisels large works. Polycarbonate glazing diffuses the northern light and creates a softly lit environment for sculpting.

Credits/sources

Architect: *Frank Harmon, FAIA, principal; Vincent Petrarca, Robert Wagner, Aaron Brumo, Michael Beaman, design team*
Construction team: *Vincent Petrarca, Robert Wagner, Aaron Brumo, Michael Beaman, Anthony Jenkins*
Corrugated metal: *Contech*
Polycarbonate glazing: *Polygal*
Continuous gear hinge: *McKinney Hinges*







PHOTOGRAPHY: © JAMES WEST







Taylor House
Scotland Cay, Bahamas

The clients wanted a simple house in which to spend six months of the year. The house is located on a small island, 30 minutes by boat from Marsh Harbor on Great Abaco.

In 1999 Hurricane Floyd pounded the Bahamas, causing extensive damage to the cay. While the storm erased all the landscaping from the property, the house itself withstood the 145-mile-per-hour winds undamaged. Because the water-collection system, which is required by law, was placed within the house, it remained protected from the elements, thus ensuring safe drinking water for the clients at all times.

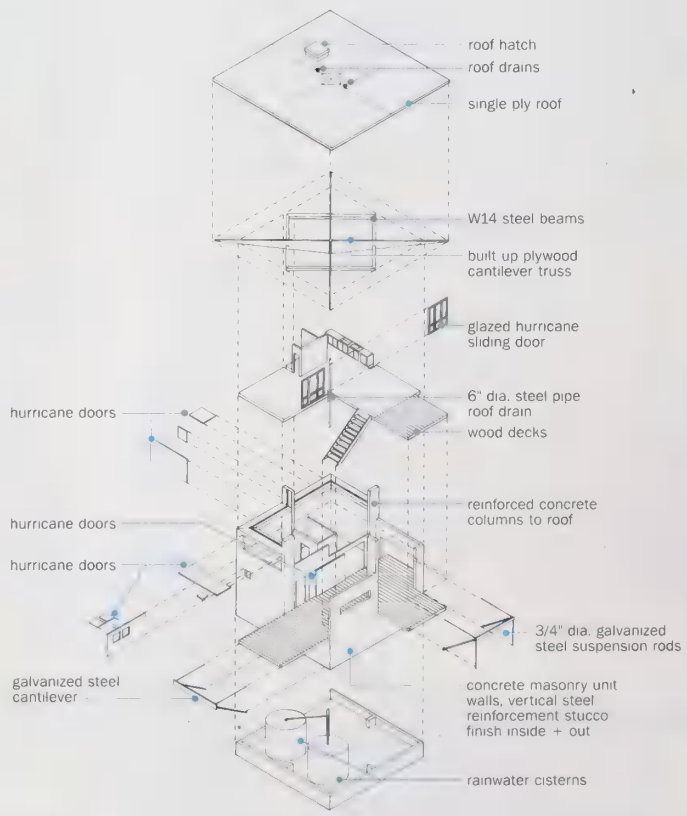
The shell is concrete and stucco with cantilevering roof trusses of marine plywood and treated lumber. Epoxy-coated hurricane doors seal all the openings.

Credits/sources

Architect: *Frank Harmon, FAIA, principal; Vincent Petrarca, on-site project manager; Quan Banh, Janice Hocking, interior design*

Roofing: *Sarnafil*

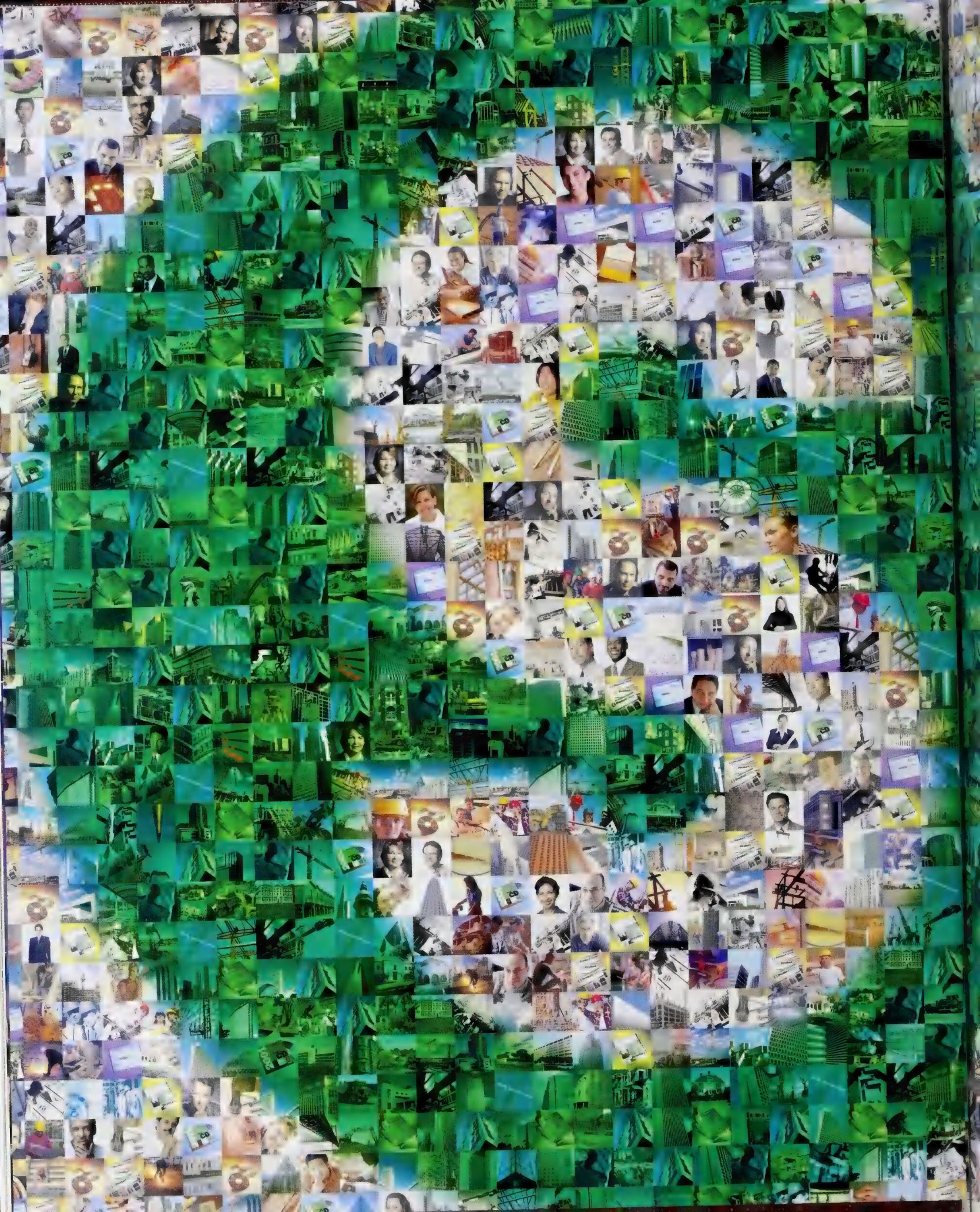
Hardware: *Richards-Wilcox*



PHOTOGRAPHY: © JAMES WEST



The bedroom suite is located on the middle level. Stairs lead to an indoor/outdoor living area with magnificent views. The underside of the inverted roof is clad with cypress.





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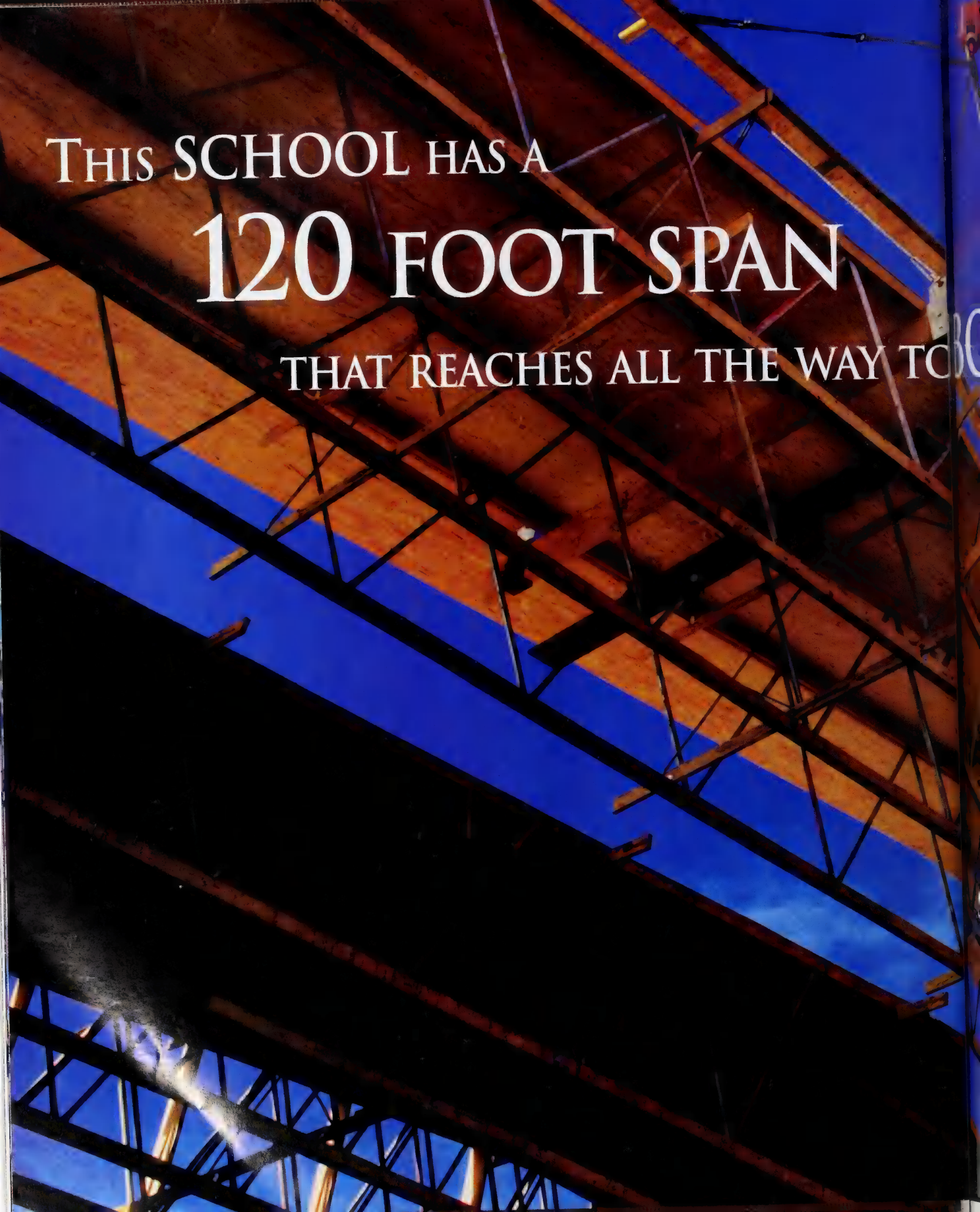
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Costly Lessons

EDUCATORS AND ARCHITECTS ARE RETHINKING LARGE, GENERIC SCHOOLS THAT ARE SEPARATED FROM THEIR COMMUNITIES. SMALLER AND MORE LOCAL MAY BE BETTER.



1.

Los Angeles

Making a silk purse out of a sow's ear, Daly, Genik converts an abandoned shopping center into an innovative charter academy.



2.

Palo Alto, Calif.

Simon Martin-Vegue Winkelstein Moris uses architecture to create a sense of community at a suburban Jewish day school.



3.

West Hartford, Conn.

An addition and renovation by Herbert S. Newman and Partners brings light, air, and a little jazz to a relic of the Brutalist past.



4.

New York City

A library addition by 1100 Architect acts as a conduit to a private school's varied past while also reaching out to its urban setting.

NEW: For 10 more school projects, go to Building Types Study at ***www.architecturalrecord.com***. The monthly expanded Web BTS features project descriptions, photographs, drawings, statistics, and links to people and products.

By Clifford A. Pearson

When two students at Columbine High School in Littleton, Colo., went on a rampage on April 20, 1999—killing 12 of their classmates, one of their teachers, and then themselves—they forced the nation to take a hard new look at its schools. What had gone so horribly wrong in Littleton, at this model of suburban, middle-class education? Experts and commentators pointed fingers in many directions—from the busy parents of the young killers to the morbid Goth music popular among the killers' clique. Some educators wondered whether the sheer size of the school, with its nearly 2,000 students, contributed to a sense of alienation felt by the kids.

"Who ever thought it was a good idea to put 2,000 kids together in one place to learn?" asks Steven Bingler, AIA, founding principal of Concordia Architects in New Orleans. "All of the research shows that students learn better in smaller schools," says Bingler, who has worked as a special consultant to the Office of the Secretary of the U.S. Department of Education. Although there are some economies of scale to consolidating so many students in one place, the strategy also has many costs—some clear (such as the need to bus kids long distances) and others less obvious (such as the reduction in parents' involvement in school activities because they too have to drive long distances to attend meetings or functions).

Because the large sites needed for big schools are usually far from a town's center, these institutions can contribute to urban sprawl and create a sense of isolation from daily community life. "After Columbine, a lot of people asked themselves, 'Why are we still building these monsters?'" exclaims Bingler. "We're spending $18 billion a year on K–12 schools and we're making some gross errors."

Sticking with a sinking ship or reinventing it?

Some architects are responding to criticism of large schools by designing them as clusters of smaller academic "houses" or by providing breakout spaces for small-group learning. Bingler, though, characterizes such strategies as "rearranging chairs on the deck of the *Titanic*." Instead, he recommends scrapping the "factory-model school" and replacing it with smaller, neighborhood schools that reach out to their surrounding communities and share libraries, auditoriums, and recreational facilities with the public at large. Sharing can happen both ways: A school can open its facilities after school hours to everyone who lives in the area, or it can use existing resources nearby. When schools are located downtown or in higher-density areas, such sharing becomes more feasible and can save money by reducing duplication of resources. A good example of this kind

of project is the Interdistrict Downtown School in Minneapolis [NOVEMBER 1999, page 114]. Designed by the Cunningham Group, the 520-student, K–12 school takes advantage of its center-city location by using its neighbors' facilities—such as the gym at the YMCA, the theater at the MacPhail Center for the Arts, and all the books at the public library. Why build an auditorium when there is a professional theater nearby that's dark during most of the time that students are at school?



Built in 1973, Columbine High School was typical of its era: sprawling and anonymous.

Connecting schools to their communities is a critical part of educational strategy in the post-Columbine era. In Los Angeles, Marmol Radziner + Associates is taking a community-focused approach to its design for a new pre-K–12 charter school in a tough neighborhood. Set on a tight 3.9-acre site, rather than a sprawling campus, the Accelerated School of South Central Los Angeles (TAS) will face directly onto two city streets and rise four stories. Its rooftops and terraces will be playgrounds and dining spaces. In a city "that has always had the luxury of horizontal development," TAS will be "a vertical campus," says Leo Marmol, AIA, one of the firm's principals. Similar schools in Los Angeles typically have about 3,000 students, says Marmol. TAS will have 870 students when its new facility opens in 2003 and will welcome the public to use its library, gym, and auditorium. Designed to be a community hub for adults as well as children, TAS will even include a teacher-training program to be run by Cal State LA. "We want the school to serve as a central plaza for the neighborhood," states Marmol. To reduce costs and encourage an ethic of recycling, the architects are converting two warehouses on the site.

For community schools to succeed, the community needs to be involved from the beginning—contributing to programming, planning, and design. "Years ago, I would get a call from a school principal or district official and he would say, 'We need a new elementary school with 25 classrooms. When can you get it for us?'" recalls Michael E. Hall, AIA, chief marketing officer for Fanning/Howey Associates, an Ohio-based architecture and engineering firm that specializes in educational facilities. "Now, there are all sorts of stakeholders whose input is essential. It's the biggest change in school design," explains Hall. Parents, teachers, students, administrators, and neighbors now participate in the process. Although it adds a lot more time to the front-end phases of the process, such input, says Hall, is generally positive. "The schools are better, they fit into their communities better, and they're better accepted by everyone."

In the Tenderloin district of San Francisco, the vision for a new kind of school began with the community itself. A rough-and-tumble

AFTER COLUMBINE, A LOT OF PEOPLE ASKED, "WHY ARE WE STILL BUILDING THESE MONSTERS?"

area best known for the drifters, drug addicts, and poor immigrants who live there, the neighborhood had no school until its residents took matters into their own hands. They organized themselves, hired AIA Gold Medalist Joseph Esherick to work as their architect, and eventually convinced city voters to pass a bond measure to finance the Tenderloin Community School. The 66,000-square-foot facility they built is a remarkable institution, combining medical and dental clinics, a family-counseling center, adult-education programs, a shared garden, and a community kitchen along with a preschool for 50 three- and four-year-olds and a 540-student K–5 school. Taking advantage of existing institutions, the school brought in the University of California's medical and dental schools to operate the health clinics and a local culinary academy to run the community kitchen. Most of the community functions are





Designed by Marmol Radziner + Associates, the Accelerated School of South Central Los Angeles will address its corner location with a sleek facade of translucent polycarbonate panels and glass (left) and use rooftops and terraces for recreation, eating, and gathering (above).

PHOTOGRAPHY: © ART/GARDNER/COLUMBINE



The Tenderloin Community School in San Francisco by Esherick Homsey Dodge & Davis echoes the city's history of bay-windowed buildings.

on the ground floor, so they are visible from the street and can stay open when other parts of the school are closed. But the community spaces and the school share a common entry and are integrated as much as possible, says Jennifer Devlin, senior associate at Esherick Homsey Dodge & Davis.

Changing times are forcing educators to try new ways of putting together school projects. In Pomona, Calif., the local school district is taking an entrepreneurial approach to creating a $25 million, K–9 community school, acting almost as a private developer would, says Brian Dougherty, FAIA, a partner at Dougherty + Dougherty Architects, the firm that is designing the project. Not only is the district assembling funding from a variety of local, state, and federal sources, but it is hoping the school will act as a catalyst for redevelopment in the area. Instead of starting from scratch, the school district will convert four empty office buildings and an old shopping center into a school called the Village @ Garey and will include community programs such as health clinics and outreach services. "We want to retain some commercial uses at the shopping center, such as a Kinkos and a drug store," which would complement the educational and healthcare functions of the project, says Dougherty, whose firm has been involved in the project from the beginning. "The architect's role is changing with these projects," states Dougherty. "Now we're serving more as strategic partners, helping the school district make the best use of its resources and drawing up ideas."

As enrollments rise, private schools, too, are expanding and reinventing themselves. Greenwich Academy in Greenwich, Conn., for example, is building a new upper school that will weave together architecture and landscape. Designed by Skidmore, Owings & Merrill, the project features a strikingly Modern series of clear glass boxes set within more solid buildings. The expansion should be finished in mid-2002.

What the numbers say

With the baby boom generation now sending its own children off to school, K–12 enrollment hit a record high of 53 million in 2000 and is projected to grow by another half million in the next five years. While the elementary-school population peaked last year at 35.2 million and is projected to slip slightly to 34.4 million by 2006, the number of students in junior and senior high school will grow from 17.8 million in 2000 to 19 million in 2006. According to the F.W. Dodge division of the McGraw-Hill Companies, 68.9 million square feet of elementary-school space was built in 2000, while 22.2 million square feet of junior high school buildings and 79.1 million square feet of senior high schools were constructed. After the baby boomers went to college in the 1970s, the need for K–12 schools dropped precipitously, and many municipalities shed themselves of properties or converted them to other uses. That scenario is not expected to be repeated in the current decade, thanks to immigration and boomers' tendency to stretch their biological clocks to their limits.

TODAY ARCHITECTS ARE STRATEGIC PARTNERS TO SCHOOL DISTRICTS, HELPING THEM BEST USE THEIR RESOURCES.

In this past year's presidential and congressional campaigns, many candidates spoke of improving education. But as the projects shown here demonstrate, some educators and architects are already exploring new directions for our nation's schools, rethinking basic concepts, and reconnecting schools to their surrounding communities. ■



Now under construction, SOM's new upper school for Greenwich Academy in Connecticut has five disciplinary clusters set between a lake and green fields.

Camino Nuevo Academy
Los Angeles

1 **DALY, GENIK ARCHITECTS TURNS AN ABANDONED MINI-MALL INTO A CHARTER SCHOOL AND HELPS REVIVE A NEIGHBORHOOD IN THE PROCESS.**

By Alice Kimm, AIA

Project: *Camino Nuevo Charter Academy, Los Angeles*
Client: *Pueblo Nuevo*
Architect: *Daly, Genik Architects—Kevin Daly, principal-in-charge; Chris Genik, consulting principal; Robert Edmonds, job captain; Scott Allen, Alice Park, George Tolosa, Jared Ward, project team*
Engineers: *William Koh & Associates (structural); Retrofit Service Co. (HVAC); Briggs Electrical (electrical)*
Landscape designer: *Mia Lehrer & Associates*
General contractor: *Miller Contractor Company*

Size: *11,300 square feet; 260 students*
Cost: *$1.1 million*

Sources
Artificial wood lattice: *Nexwood Synthetic Lattice*
Elastomeric roofing: *Dex-o-Tex*
Steel windows: *Miller Metal Specialties*
Aluminum windows: *Fleetwood*
Floor and wall tiles: *Armstrong*
Interior ambient lighting: *Prudential*
Downlights: *Lightolier*

WWW
For additional school projects and more information on the people and products involved in this project, go to Building Types Study at **www.architecturalrecord.com**

Program

In 1992 an Episcopalian priest named Philip Lance left his Beverly Hills parish and moved to the MacArthur Park area of Los Angeles, one of the poorest neighborhoods in the city. Lance founded Pueblo Nuevo, a community group dedicated to improving local economic and social conditions. Camino Nuevo Charter Academy is one of its achievements.

With the help of EXED, a charter school developer, and Paul Cummins, a school specialist, Lance took over an abandoned mini-mall down the street from Pueblo Nuevo's offices and turned it into an elementary school designed by Kevin Daly and Chris Genik. The school serves 260 students in kindergarten through fifth grade from a series of classrooms and linked outdoor spaces that embrace an active courtyard.

Design solution

According to Anita Landecker, executive director of EXED, Camino Nuevo is "special because it is the result of a truly grass-roots effort. It took what was a blight in the neighborhood and transformed it." Working with a very tight $1.1 million budget and a simple program, Daly, Genik stripped the existing



building (a two-story wood-frame structure on top of a concrete basement garage) and reconfigured the interior into 12 classrooms with patterned vinyl-tile floors and colored exterior walls.

Because the second-story walkway that wrapped around the strip mall's parking lot was too narrow for a school, Daly, Genik widened it and introduced a curving lattice element and new stair that animate what is now the courtyard facade. More than just an exterior corridor, the new walkway expands at points to form outdoor rooms and waiting or lounge areas. At eight feet high, the lattice works as a sunscreen and prevents balls and other flying objects from damaging second-floor windows. Formally, it has the power of a recognizable architectural icon.

The lattice, which informs so much of the building's identity, is made of a recycled material that is a mixture of reclaimed plastics and cellulose fibers composed of sawdust and rice hulls. The material looks like wood but resists moisture, bacteria, and termites.

The school's street facade is a play of planes that push in and out and work with planted areas to activate the sidewalk. The smoothly stuccoed and windowless wall hides a new bathroom wing. Although a block of rest rooms seems an odd way of addressing the school's street edge, the architects designed it as a faceted, sculptural element that engages the public realm.

The architects converted the old mini-mall's parking lot into a multisloped courtyard that serves as the school's playground, assem-

Alice Kimm, AIA, is a partner in the Los Angeles firm John Friedman Alice Kimm Architects.

PHOTOGRAPHY © TOM BONNER



The main public facade of the school (opposite) combines a sense of security and lively engagement with the street. Inside the courtyard, the architects turned an outdoor stair into a key sculptural element.





bly area, cafeteria, and multipurpose space. They also added a concrete amphitheater at one edge of the yard and planned the entire outdoor area so students and staff can bring out tables, basketballs hoops, and flagpoles at a moment's notice. "The courtyard is very active, almost always in use," says Daly. One of the most enduring contributions to the neighborhood is the life-affirming sound of children playing.

Daly comments: "Whereas our other projects spill into the city fabric in small ways that can have a big impact, here it was the opposite; we wanted this to be a shade garden to serve the social program of dropping off and collecting kids."

Educational approach

Most students at Camino Nuevo are the children of recent immigrants who speak little English and move frequently. As a result, many students attend the academy for only a year or two. The school seeks to acclimate these children with a literacy program that challenges them to become fluent in English quickly. The school's academic year is an intense, longer-than-average 200 days. While the student body turns over rapidly, the school itself is meant to be a stabilizing force within the neighborhood. It aims to equip its students to deal confidently with the outside world.

Commentary

At 11,000 square feet, the project is quite small. Its modesty, noted in light of the powerful effect it has had on the neighborhood, shows how meaningful architecture can be, even if it isn't monumental or expensive. The building repairs a rift in the city fabric left by the abandonment of an unappealing mini-mall. Furthermore, its sequential and transparent layering—from the public sidewalk, into the courtyard, up the stairs, into the interstitial exterior "rooms" along the upper walkway, and finally into the classrooms—promotes social interaction.

By reworking a strip shopping center into a school, Daly, Genik has captured the potential of a generic building type, transforming it into a vibrant institutional and cultural facility. ■







SECOND FLOOR



FIRST FLOOR

1. *Classroom*
2. *Office*
3. *Toilets*

Daly, Genik converted retail space into 12 straightforward classrooms (above). Aside from teaching, most activities at the school—including eating, playing, and socializing—take place outdoors, either in the school's central courtyard (top and opposite top) or in the widened walkway on the second level (opposite bottom).

Mid-Peninsula Jewish Community Day School

Palo Alto, California

2 **SIMON MARTIN-VEGUE WINKELSTEIN MORIS DESIGNS A SCHOOL THAT TAKES ADVANTAGE OF THE TEMPERATE CALIFORNIAN CLIMATE.**

By Lisa Findley

Project: *Mid-Peninsula Jewish Community Day School Palo Alto, Calif.*
Architect: *SMWM (Simon Martin-Vegue Winkelstein Moris)—Cathy Simon, FAIA, partner-in-charge; Bill Bondy, AIA, Phred Starkweather, AIA, Doug Hoffelt, AIA, Thomas Lumikko, Michael Bautista, Jim Koentopp, AIA, project team*
Engineers: *Nishkian & Associates (structural); Guttman & Blaevoet (M/E/P); Sandis Humber Jones (civil)*
Consultants: *CTLK (landscape); Wilson, Ihrig & Associates (acoustical); Architectural Lighting Design (lighting);*
General contractor: *W.L. Butler*

Size: *23,000 square feet; 240 students*
Cost: *$4.7 million*

Sources
Curtain wall: *Silicon Valley Glass*
Mineral-fiber siding: *Hardiplank*
Metal roofing: *BHP*
Skylights: *Kalwall*
Acoustical ceilings: *Armstrong*
Markerboards and chalkboards: *Greensteel*

WWW
For additional school projects and more information on the people and products involved in this project, go to Building Types Study at **www.architecturalrecord.com**

Program

Reinforcing a sense of Jewish identity among the children of mostly affluent families in Silicon Valley was one of the key goals of the newly founded Mid-Peninsula Jewish Community Day School in Palo Alto, Calif. But rather than emphasize religious symbolism, the school wanted to bring students closer to their Jewish heritage by creating a sense of community. The job of expressing this community architecturally in a 240-student, K-5 school was given to the San Francisco–based firm Simon Martin-Vegue Winkelstein Moris (SMWM), due, in part, to the firm's extensive track record with other private schools in the area, including the University High School, the Urban School, and the Lick-Wilmerding School [RECORD, OCTOBER 1997, page 122].

Drawing on its K-12 experience, SMWM designed a 23,000-square-foot, $4.7 million day school for Mid-Peninsula that would fit on a tight 1.5-acre site along a busy street, while also coping with vocal neighbors, a low density allowance, and Palo Alto's strict design-review process. After construction began, a shooting at a Jewish daycare center in Los Angeles added security as a critical concern.

Contributing editor Lisa Findley writes about architecture and teaches at the California College of Arts and Crafts.



PHOTOGRAPHY: © TIMOTHY HURSLEY

Design solution

The question of style arose early in the design of the building. The conversation was not about finding a "Jewish" style, but rather responding to a desire by some of the client group for a reference to the Spanish Revival buildings of Stanford University's nearby campus. SMWM successfully argued that such a style, built within the project's budget with today's technology and craft, would seem flimsy and fake.

So instead of imitating a particular style, SMWM took advantage of the mild climate of northern California to shape the building in a way that would enhance its sense of community. To that end, the building wraps around a multiuse courtyard with classrooms opening onto 20-foot-wide covered walkways that gather circulation and views onto the grassy central play area.

Generous porches connect the classrooms directly to the courtyard. A curving roof on the kindergarten and first-grade wing, kept at one story to appease nearby homeowners, seems to protect the younger students, while a larger curving roof on the school's two-story wing suggests a grander scale appropriate for an institution of learning. The larger roof also shelters a walkway on the upper floor that serves as an important social space for the kids. Double columns and exposed steel beams supporting the second-story walkway illustrate the structure, showing students how the building was put together, while also breaking down the scale of the building.

The building also engages children with a dynamic main stair rising from a curvilinear platform,

For security reasons, access to the school is limited to a gated entry beyond a wooden canopy (bottom and left in photo below). Covered walkways on the courtyard side provide space for play (opposite).





The main stair has a landing designed as a "crow's nest" where kids can watch all the action in the courtyard (right). A one-story wing houses younger students (below), while both wings have classrooms with cross ventilation and plenty of daylight (opposite).







1. *Classroom*
2. *Arts*
3. *Biblical garden*
4. *Administration*
5. *Assembly (unbuilt)*

nicknamed the "lily pad," where students can sit and hang out. Another favorite place for students to play is the stair's midlevel landing, whose form echoes that of tree houses and crow's nests and whose marine-plywood guardrail has cutouts that let kids spy on friends and teachers.

The large daylit classrooms are a teacher's dream, with ample storage built into almost every wall, yards of pin-up space, and a sink in each room. At the intersection of the two classroom wings is a spacious light-filled art and music room. Due to the low floor-area ratio allowed by the site's residential zoning, the library had to be pushed into a basement level. However, large light wells, along with built-in furnishings and lively colors, dispel any feeling of being underground.

Administrative offices overlook the steel-gated entry area, providing security where it is needed most. On the other side of the main entry, a Biblical Garden with plants cited in the Old Testament adds a softer touch.

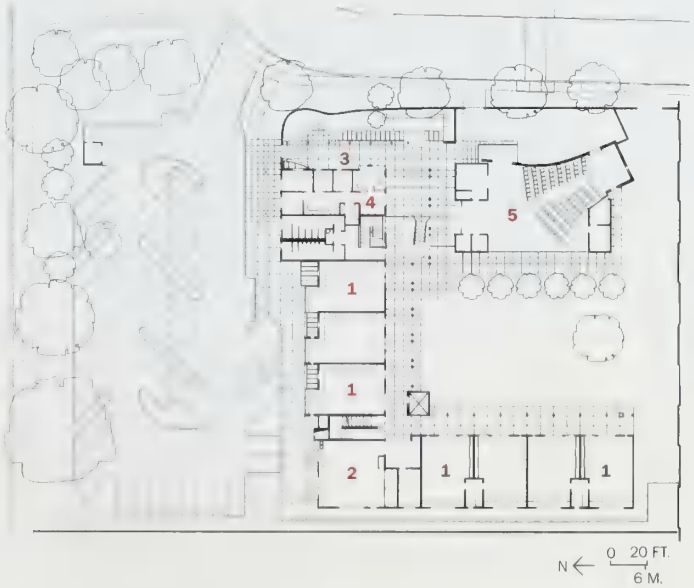
Out front, a parking lot and mature trees buffer the building from the busy street, while large bay windows projecting from the classrooms reduce the bulk of the facade. SMWM specified a vivid yellow for the metal panels sheathing the front bays and for metal elements on the courtyard side of the school. According to SMWM's principal-in-charge, Cathy Simon, FAIA, the color, criticized by some of the neighbors as too garish, has become, for the children, an emblem of the school.

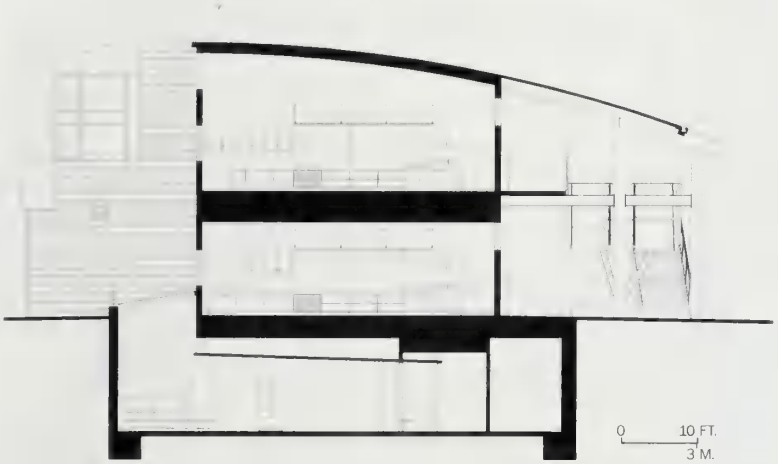
Educational approach

While the building program may be similar to other small private schools, the educational approach of this progressive Jewish school combines religious and secular studies in a demanding schedule. Students spend 30 percent of their seven-hour day studying Hebrew and Judaica, with the balance devoted to nonreligious subjects.

Commentary

The Mid-Peninsula Jewish Community Day School is not flashy or trendy architecture. Instead, it impresses users and visitors with careful planning and well-detailed contemporary materials. The building itself offers an education in how buildings are made: its exposed structural connections, for example, teach simple statics, while its bay windows show how seemingly repetitive elements can actually have small, intriguing differences. The $200-per-square-foot building is designed to delight children—even the emergency-exit stairs, which are enlivened with daylight, dashes of color, and slots between runs that let students see who's coming. While responding to children's need to run up stairs, spy on each other, and have fun, this building never talks down to students. Instead, it treats them with respect. ■





NORTH-SOUTH SECTION

William Hall High School
West Hartford, Connecticut

3 **HERBERT S. NEWMAN AND PARTNERS' ADDITION AND RENOVATION HEALS ARCHITECTURAL WOUNDS FROM A PREVIOUS ERA.**

By Elizabeth Harrison Kubany

Project: *William H. Hall High School addition and renovation West Hartford, Conn.*
Client: *Department of Community Services, Town of West Hartford*
Architect: *Herbert S. Newman and Partners—Herbert S. Newman, FAIA, Richard Munday, AIA, James Reilly, Mai Wu, Stephen Weeks, AIA, Joseph Huether, AIA, Carl Wies, AIA, Rupinder Singh, Nancy Restivo, Joseph Ferucci, Lindsay Suter, AIA, Joseph Rufrano, Jeffry Boyd, Gwen Emery, George Barnes, project team*
Engineers: *Van Zelm Heywood and Shadford (M/E/P); Barnhart, Johnson, Francis and Wild (structural)*
Consultants: *Carl Rosenberg (acoustical); Strong Cohen Graphic Designers (signage)*

Size: *20,000 square feet (new); 250,000 square feet (renovated); 1,500 students*

Sources
Curtain wall: *Vistawall*
Acoustical ceilings: *Armstrong*
Cabinetwork: *Conco Woodworking*
Carpeting: *Karastan*
Downlights: *Lightolier*

www
For additional school projects and more information on the people and products involved in this project, go to Building Types Study at **www.architecturalrecord.com**

Program

Brutalism was the style of choice for institutional buildings in 1970, when William H. Hall High School in West Hartford, Conn., opened its doors. Like other buildings of this period, Hall High had elevations with small windows (to cut energy costs) and deep floor plates with large areas far from daylight and natural ventilation. In its banality and coldness, the school sent a negative message about the experience of learning.

So when West Hartford's Department of Community Services hired Herbert S. Newman and Partners to renovate Hall High, it asked the architects to change the dark and brooding building into a different kind of place. With enrollment projected to grow from 1,200 to 1,500 students and changes in curriculum planned, the existing 250,000-square-foot building needed to expand as well.

Herbert S. Newman, FAIA, says the project's goal was "a transformation that would give the students a sense that the town cared for them. The clients wanted to demonstrate that a school building can be architecture and that architecture and the physical environment can play a role in helping one learn."

Design solution

The architects located the project's 20,000-square-foot, three-story addition on the northeastern corner of the existing building, where it would front the main access road to the school. Although not at the school's main entrance, the addition has a high public profile. "By making the addition clearly visible to everyone who enters the site, we tried to create the sense that something new and exciting is happening at the school," explains Newman.



With its curved form and looming stair tower, the addition acts as a foil to the horizontal mass of the old building. The curved stair tower rises eight feet above the rest of the addition and the existing building to mask a tangle of mechanical equipment on the roof. At night, when it is lit, the tower's lead-coated copper lantern acts as a beacon.

In contrast to the almost windowless existing building, glazing is generous on the addition's northern elevation and, to a lesser extent, on its eastern facade. The architects designed the bright, airy spaces here as art studios, general classrooms,

PHOTOGRAPHY: © WOODRUFF/BROWN PHOTOGRAPHY



While the existing building (left in photo left) kept windows small to reduce energy costs, the new 20,000-square-foot addition features generous glazing to enliven learning spaces. A curved stair tower (opposite) adds a vertical element to the strongly horizontal composition.



Spaces in the new building include art studios, general classrooms, and state-of-the-art science laboratories such as the one below.

1. *Classroom*
2. *Faculty center*
3. *Library*
4. *Pupil services*
5. *Gymnasium*
6. *Computer lab*
7. *Large-group instruction*
8. *Administration*
9. *Auditorium*
10. *Music*



and science laboratories.

Providing more daylight was a driving force behind the reorganization and renovation of the existing building. (Budget constraints limited renovations to just portions of the old building.) At strategic locations the architects punched new window openings into the old building and moved offices and teaching areas into these spaces. They also shifted pupil services and guidance areas from dark areas of the building to redesigned spaces in prime locations. The library, which had been difficult to access from parts of the building, also got extra space and a more prominent entrance.

For the addition, the architects specified materials that were compatible with, but not identical to, those in the existing building. For example, rather than the terra-cotta brick of the 1970s buildings, the architects used an aubergine-colored brick veneer with horizontal lines of terra-cotta running through it. Since the bricks are glazed, they shimmer like the building's lead-coated copper-roof copings. The whole simultaneously complements and defies the monotonous expanse of the old Brutalist structure.

Educational approach

Although the primary purpose of the new building is to provide needed extra space, it also accommodates one curriculum change—the creation of discipline-based resource rooms where students go to study a particular subject and work closely with faculty who teach this subject.

Commentary

Unlike the 1970s Brutalist building, which sent a negative message, Newman and Partners' addition does the opposite. As project manager Richard Munday, AIA, explains, "In creating spaces of varying architectural character and in assembling normal building materials in a way that is different from what the students are used to, we've tried to create a building that teaches kids about a larger culture and greater possibilities in the world." ■



Little Red School House
New York City

4 **1100 ARCHITECT GIVES A SMALL PRIVATE SCHOOL A MORE PUBLIC FACE WHILE ADDING A NEW LIBRARY AND RENOVATING EXISTING BUILDINGS.**

By Clifford A. Pearson

Project: *Little Red School House addition, New York City*
Client: *Little Red School House and Elisabeth Irwin High School*
Architect: *1100 Architect PC—David Piscuskas, AIA, Juergen Riehm, AIA, partners-in-charge; Carmen Lenzi, project manager; Bobby Young, Erica Friedland, project team*
Engineers: *Robert Silman Associates (structural); Cosentini Associates (mechanical/electrical/plumbing)*
General contractor: *Scorcia & Diana Associates*

Size: *10,000 square feet (new); 20,000 square feet (renovated); 450 students*
Cost: *$2.9 million*

Sources
Brick: *Marsailles Brick*
Storefront curtain wall: *Kawneer*
EIFS: *USG*
Aluminum windows: *Winco*
Glazing: *Viracon*
Skylights: *Supersky*
Metal doors: *Acme*
Cabinetwork: *ISI Millwork*
Wood-slat ceiling in cafeteria: *Rulon*
Ambient library lighting: *Delray*
Library stack lighting: *Lightolier*

WWW
For additional school projects and more information on the people and products involved in this project, go to Building Types Study at **www.architecturalrecord.com**

Program

From the street, it looks like a neatly packaged addition to an urban school that had grown piecemeal over the years. But the new 10,000-square-foot building, with its glass-fronted library on the ground floor and skylit art room on the top, is really just the tip of a programmatic iceberg. Because the addition connects two existing structures built at different times and with different floor heights, it must negotiate seven different levels and tie everything together.

Planning the project required rethinking nearly every aspect of the Little Red School House's lower- and middle-school campus, says David Piscuskas, AIA, one of the partners in charge of the project for 1100 Architect. "We reshuffled the whole deck of cards," states Piscuskas, who happens to be the parent of a former student. "We found new homes for everything," including the school's cafeteria, administrative offices, and support spaces. The $2.9 million project involved renovating 10,000 square feet in each of the two existing buildings, as well as erecting the new building. It also resulted in a more prominent public face for the school and a new entry plaza that better connects the school with its neighborhood.

Before initiating the expansion, "we'd run out of space," states Andrew McLaren, director of Little Red School House and Elisabeth Irwin High School. Little Red, which occupies simple, residentially scaled buildings in Greenwich Village, comprises kindergarten through eighth grade, while its sibling institution, Elisabeth Irwin High School, occupies separate facilities a few blocks away. Enrollment at Little Red had grown in recent years, exerting pressure for more space and better facilities. And because the existing buildings were connected only at their lower two levels, movement between the lower and middle schools was often circuitous.



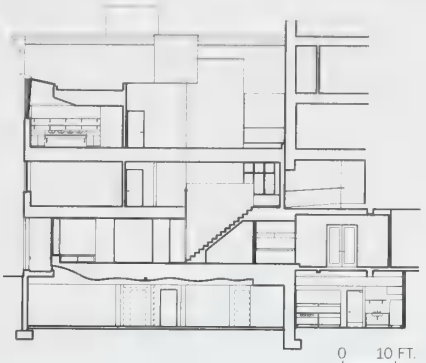
Design solution

Instead of merely adding more space behind the existing buildings, 1100 Architect designed the new structure to reorient the school from its traditional front on Bleecker Street to a new entry and plaza on Sixth Avenue. Not only did this shift give the school greater visibility in the neighborhood but it also provided a more generous drop-off and pick-up area where parents could sit and chat in the new landscaped plaza. Although the architects specified red brick as a link to the older buildings, they recessed some of the bricks and used generous glazing to announce a new, more open and modern attitude. "It's both an addition and a stand-alone building, if that's possible," explains Piscuskas. It also mediates between the older school buildings and a flamboyant Italianate building to the south.

The ground floor of the new building now serves as the main entrance to the school with a spacious, daylit lobby and security desk. A new library, set a couple of feet above the fray, looks onto the lobby

PHOTOGRAPHY © MICHAEL MORAN



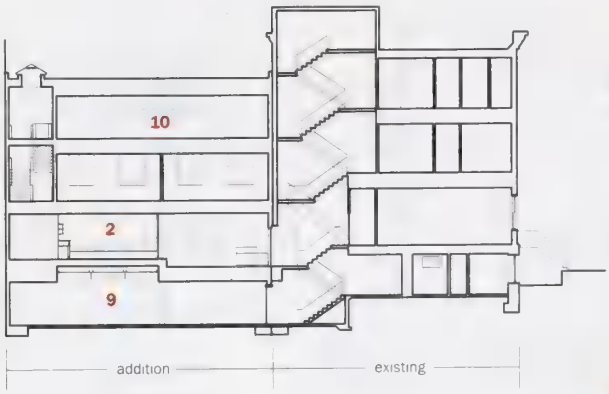


SECTION LOOKING NORTH

0 10 FT.
3 M.

The addition fronts Sixth Avenue with a new entry plaza (opposite and below) and includes a skylit art room on the top floor (left) and a new lobby and library on the ground floor. A subtly animated brick facade "mediates" between an Italianate apartment building (right in photo opposite) and the old school (left in photo).





SECTION LOOKING WEST

1. *Lobby*
2. *Library*
3. *Classroom*
4. *Office*
5. *Science*
6. *Reading*
7. *Auditorium*
8. *Music*
9. *Cafeteria*
10. *Art*



FIRST FLOOR PLAN





The new cafeteria (right) is in the basement, but a rolling wood-slat ceiling and a long clerestory window along Sixth Avenue enliven the space. As seen from the new lobby, the library (above right) has a lounge area fronting the street and reading areas in the back.

behind a glass wall. Raising the library separates it from the rush of students and allows daylight to flow into a new cafeteria below.

"Everyone is asking, 'What is the role of the library in schools today?'" says Piscuskas. Although digital technologies are changing the ways students learn, libraries are still important social and data hubs. So 1100 Architect gave the one at Little Red a prominent location and made it a focal point for the school. "We wanted everyone to see it as they enter the school," says Piscuskas. The two-story library has bookshelves and comfortable chairs on the main level and a computer lab on its mezzanine.

To connect all three of the school's buildings was one of the project's toughest tasks. "What made everything work," explains Piscuskas, "was locating the new floors at a landing level" between those of the unmatched older buildings. As a result, students have to go just half a level up or down to get to either of the older buildings.

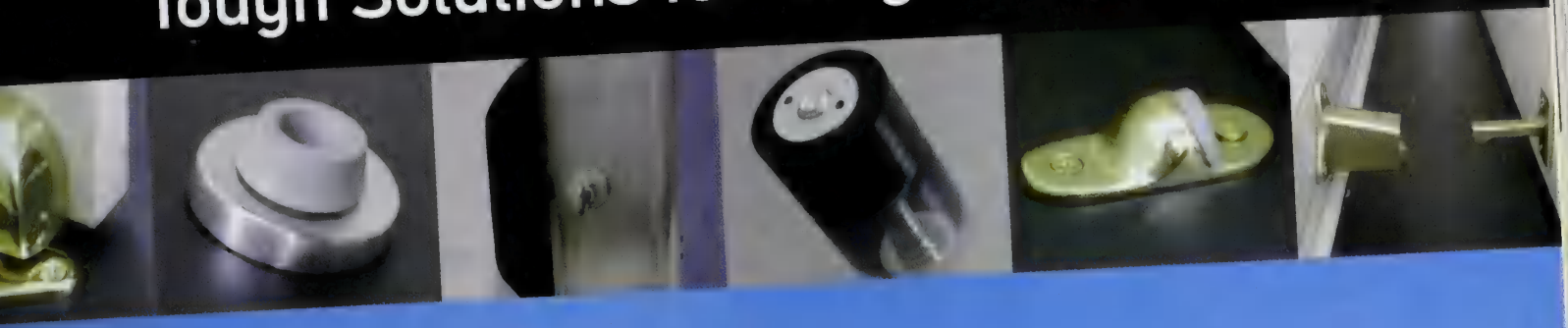
Educational approach

Founded in the 1920s by progressive educator Elisabeth Irwin, who was a friend of the philosopher and educator John Dewey, Little Red School House offers "student-centered learning," says McLaren. The school, which has a reputation for social activism, encourages students to express themselves individually.

Commentary

The most impressive aspect of the project is the way it makes three buildings work as one. The light and connections are the most pleasing elements of the project, says McLaren. "And these are a good encapsulation of the spirit of progressive education and progressive architecture," he adds. Also remarkable is the elegant use of blond wood and clean lines, which give the school a modern Scandinavian look. No cloying colors or "playful" mosaics here. "We didn't want to condescend to the kids," says Piscuskas. "It's an adult building scaled to children." ■

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JUNIOR HIGH SCHOOL

Clifford J. Lawrence Junior High School
Las Vegas, Nevada
Firm: Welles-Pugsley Architects
Project Architect: Wade Simpson



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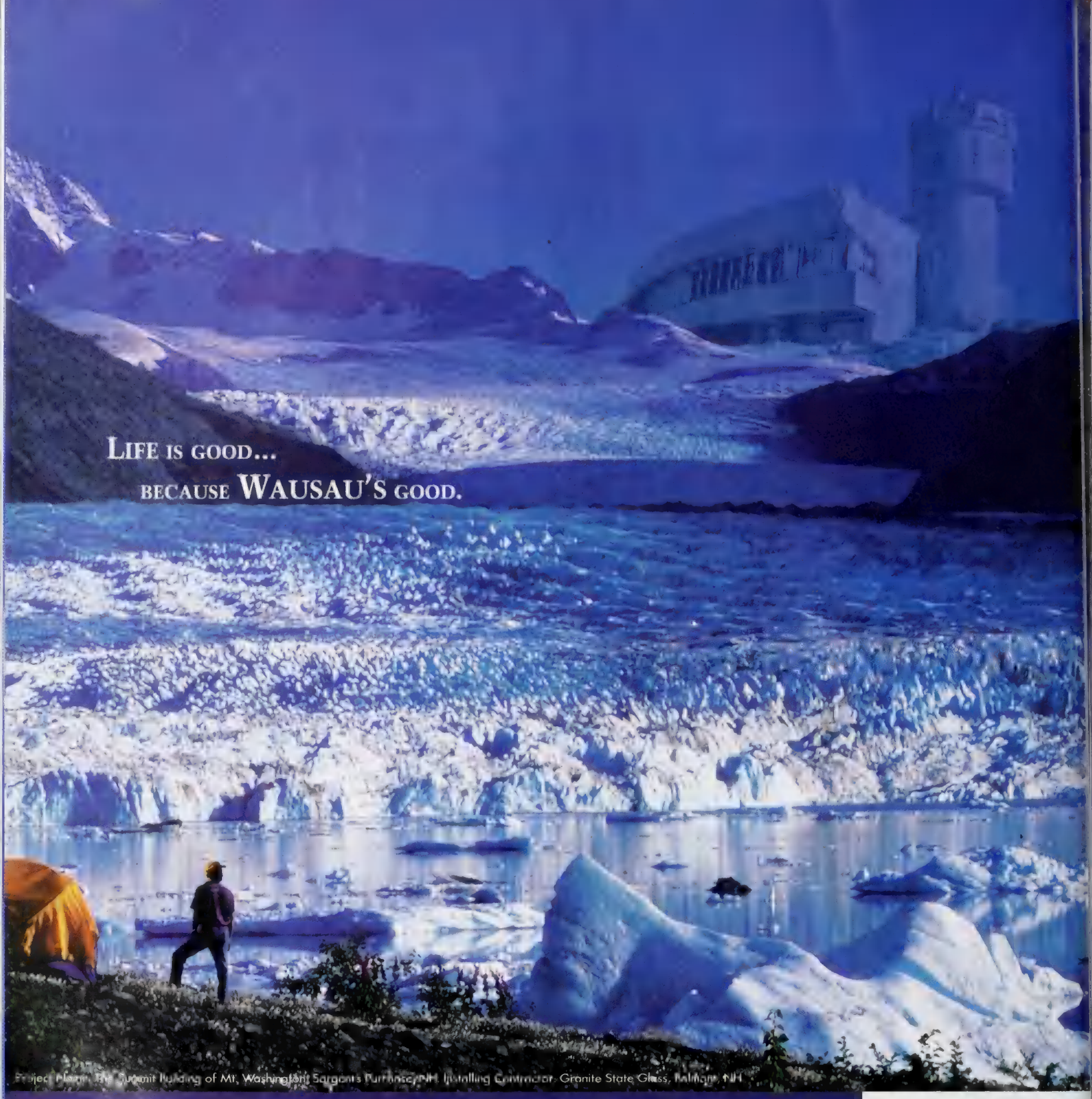
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A new era in school construction begins

ARCHITECTS HAVE A LOT OF WORK AND A GREAT DEAL TO LEARN AS THEY REPLACE THE NATION'S DETERIORATED SCHOOLS WITH INNOVATIVE, AGILE ONES FOR A GROWING POPULATION OF STUDENTS.

By Sara Hart

Over the next 10 years, thousands of new schools will need to be built and thousands more renovated and expanded. In a 1995 landmark report, the General Accounting Office (GAO) estimated that $127 billion will be needed just to improve the condition of existing schools. As far as new construction goes, 2,400 new public schools will be necessary by 2003 to accommodate rising enrollments and to relieve overcrowding, and thousands more will be needed in future years, according to the 1999 *Baby Boom Echo Report* released by the U.S. Department of Education's National Center for Education Statistics (NCES).

To call this a national crisis does not overstate the situation. To then imagine that this crisis is and will continue to be a huge boon to the architectural profession is a reasonable deduction. Architects take heed, though. The clients in this case—communities, educators, state and federal authorities—see this crisis as an opportunity to rethink the ways in which children are taught and the physical spaces in which they spend a good portion of their lives for 12 years. Suddenly, it seems, everyone is interested in school design and is asking the question: If information technology is revolutionizing education, what kind of environments will be needed to support the revolution?



Centennial Campus Middle School in Raleigh is designed around "academic houses."

Several recently completed projects illustrate how some architects are reinventing a design model that hasn't changed in 50 years. The Centennial Campus Middle School (CCMS) in Raleigh was 12 years in the making from concept to occupancy. It's the first in the nation to combine the resources of a public school system, a land-grant university, and an advanced research and development community known as the Research Triangle. Located on the 1,200-acre Centennial Campus of North Carolina State University (NCSU), the school constitutes the first phase of a collaboration between the university and Wake County's public school system. (The second phase, which will start construction in a year, will be the addition of the Partners-in-Schools Research and Development Center run by NCSU's Department of Education to conduct site-based research, teaching, and software development and testing.)

A joint venture such as this, while beneficial to all in the end, is initially a great deal more complicated than other kinds of projects. In this case, specialists at NCSU's College of Education envisioned a school where innovative teaching practices and methods would be introduced, but they were stumped by how to do this using the traditional architectural model, which seemed hopelessly obsolete. They realized that architectural issues would have to be addressed simultaneously with programming and technological requirements. Programming coordination was not conducted by county or university administrators, but instead by a professor of architecture at NCSU, Henry Sanoff. Sanoff has written extensively about integrating educational programming with architectural design. After several months of intense study and col-

CONTINUING EDUCATION

CONTINUING EDUCATION

Use the following learning objectives to focus your study while reading this month's ARCHITECTURAL RECORD/ AIA Continuing Education article. To receive credit, turn to page 226 and follow the instructions.

LEARNING OBJECTIVES

After reading this article, you should be able to:

1. Describe how school design can support the new information technology.

2. Explain the concept of space agility.

3. Explain why traditional school design will need to change.

WWW For this story and more continuing education, as well as links to sources, white papers, and products, go to **www.architecturalrecord.com**





SECOND FLOOR



FIRST FLOOR

Centennial Campus Middle School
Raleigh

Architect: *Boney Architects*
Design team: *Katherine Peele, AIA (principal), Franklin B. Swanson, AIA (project architect), David Reeder, CSI (construction administration)*
Estimated cost: *$13,500,000*
Engineer: *Morrison Engineers PLLC (structural), Cheatham & Associates, P.A. (mechanical/plumbing), Dewberry & Davis (electrical), McEvoy Engineering (utilities), LandDesign (landscaping/civil)*
Completion date: *August 2000*

This unique middle school resulted from a collaboration between a public school system and a state university. The 132,000-square-foot facility is divided into three "academic houses" of 200 students. The next phase will house university research and pilot programs.



1. *Team classrooms*
2. *Group meeting rooms*
3. *Performing arts*
4. *Gymnasium*
5. *Lunchroom*
6. *Outdoor classroom*
7. *Administration*
8. *Media center*

laboration, he presented a program flush with design elements, including relational diagrams and recommendations for integrating current teaching practices and emerging technologies.

Sanoff's plan was then given physical form by the Raleigh office of Boney Architects, a 78-year-old firm with a portfolio of 1,500 educational facilities in North Carolina. Katherine Peele, AIA, the design

"BY COMPARTMENTALIZING THE SCHOOL INTO 'ACADEMIC HOUSES,' YOU GET THE FEELING OF A SMALL SCHOOL."

principal for CCMS, follows all the trends in education and was aware of the complexities created by a partnership such as the one between NCSU and the local school system. "It's still difficult to hammer out an agreement acceptable to all parties," she says. "There are often conflicting agendas regarding costs, usage, and maintenance. In the case of CCMS, the school owns the building, and the university owns the land." Although it's apparently a productive relationship, Sanoff's plan required the approval of no fewer that 100 specialists, administrators, and educators from the county and the university. And yet, the trend is real. Boney has several other projects on the boards in which school systems are pooling their resources by partnering with local parks and recreation departments, public libraries, performing arts organizations, and even health clinics.

Size matters

How big is the ideal student body? Research conducted during the past 40 years has determined that an ideal school has 200 to 250 students. These findings go against the standard method of assigning square footage per student and allowing the number of students to swell into the thousands. "Of course, 200 students per school is economically unrealistic," explains Sanoff. "However, by compartmentalizing the school into what some now call 'academic houses,' you get the feeling of a small school." Boney developed three such houses for CCMS, one for each grade, with classrooms that can expand or contract and with activity rooms of varying sizes. This reflects a major departure from the typical corridor double-loaded with identical rooms.

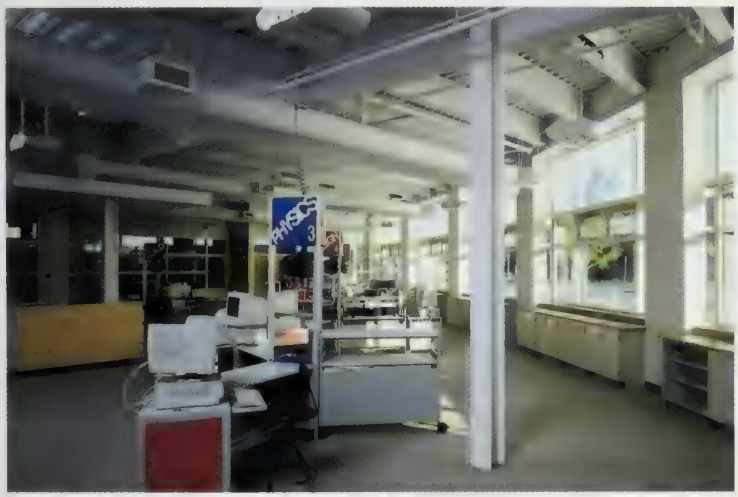
Ray Bordwell, director of educational facilities and research at

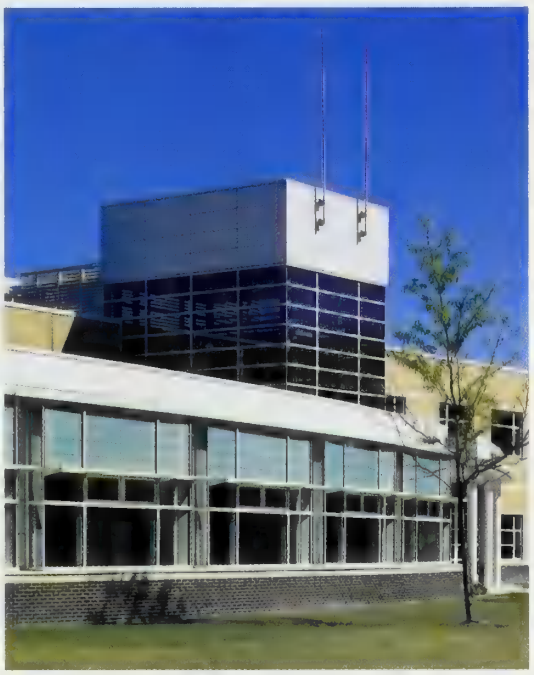
PHOTOGRAPHY: © GREG LOFLIN

West High School, Aurora, Ill.
Architect: *Perkins & Will*
Design team: *Gaylaird Christopher, Steven Turckes, AIA (principal), Peter Brown, John Dale, Ryan Hollien, Courtney McLeod-Golden, Dennis Roney, Richard Ruck, Karen Pottebaum, David Powell, Kimberly Brown, Keith Krenick, Jeff Olson, Hans Thummel, John Jackowski, John O'Neil*
Estimated cost: *$25,000,000*
Engineer: *ALTA Engineering (structural)*
Consultants: *The Concord Group (cost estimating), Commercial Kitchen Design (food service consultant)*
Completion date: *August 2000*



This renovation and expansion of West High School provides major upgrades to the 30-year-old structure, including expanded community facilities, state-of-the-art technology system, and diversification of learning environments. The 86,000-square-foot addition includes a center for technology-based learning (below) and a Health Sciences Academy.





Perkins & Will in Chicago, distinguishes between flexible and agile spaces. Flexible spaces are little more than the traditional rectangle fitted out to accommodate more technology. This is a situation in which technology has no effect on design. "An agile space, on the other hand, can be dramatically reconfigured to accommodate new learning methods—smaller groups enjoying self-directed learning, for instance," he

ARCHITECTS MUST CONVINCE AUTHORITIES TO DISREGARD ARBITRARY SQUARE-FOOTAGE-PER-STUDENT REQUIREMENTS THAT INHIBIT CREATIVE PROBLEM SOLVING.

explains. "There's now a need for larger spaces and smaller spaces, not a sameness of spaces. Can I open the wall and engage the hall? Is there a quiet but public space where I can sit with others and plug in a laptop? Can the lunchroom that's only used for two periods a day be adjacent to the library so activities can mix?"

While some spaces become agile, others may eventually disappear altogether. At the Harold G. Fearn Elementary School in West Aurora, Ill., Perkins & Will eliminated the sacrosanct symbol of knowledge and learning—the library—at least in its traditional form. Book collections and other educational materials, including laptops, will be distributed from mobile units to "classroom clusters" (another version of "academic houses"). A media specialist (formerly known as a librarian) operates from a central circulation desk, supplying the carts with materials that meet specific needs of students in each cluster.

Boney has responded to similar programmatic requirements for other school projects. "We've been asked to downsize certain spaces, especially libraries," Peele explains. "Libraries no longer need the same stack space. There's no need to store past issues of periodicals if they're online. We're doing a school now with a very small library, but we've provided mini-media centers in each of the two wings."

No more lecturing

Sanoff sees technology as having a somewhat subservient role in education. He argues that technology serves new teaching practices, not the other way around. Regardless of hardware and software availability, few

1. *Special education*
2. *Kindergarten*
3. *Administration and media center*
4. *Multipurpose*
5. *Media resources*
6. *Reading*
7. *Art*
8. *Classroom clusters*



FLOOR PLAN

Harold G. Fearn Elementary School, Aurora, Illinois

Architect: *Perkins & Will*

Design team: *Steven Turckes, AIA (principal), Gaylaird Christopher, Peter Brown, John Dale, Binh Wonh, John Jackowski*

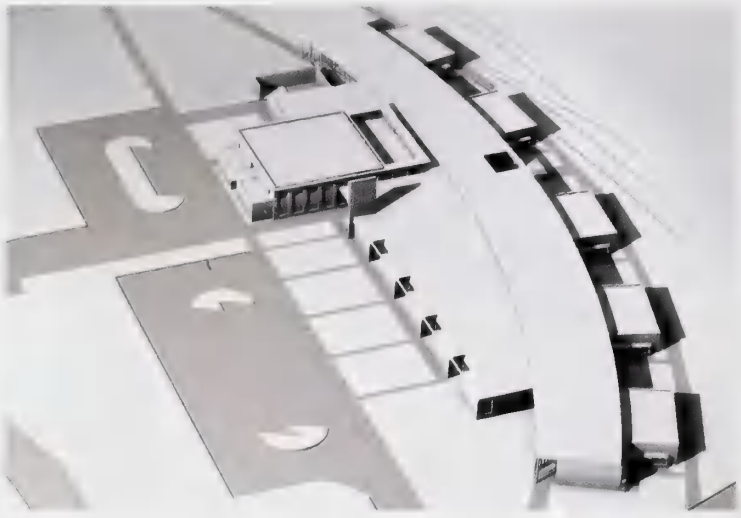
Estimated cost: *$7,250,000*

Engineer: *Mechanical Services Associates (MEP); Terra Engineering (civil); Thorton-Tomasetti Engineers (structural)*

Consultants: *A.J. Maggio Co. (contractor), The Concord Group (cost estimating)*

Completion date: *July 2001*

Harold G. Fearn Elementary School is being developed in a new residential neighborhood in Chicago's western suburbs. Designed for 600 students, the 58,000-square-foot facility will complete the second phase of a new 30-acre campus that includes a middle school and athletic facilities maintained by the North Aurora Parks Department. Twenty student teachers from Aurora University will occupy offices in the school and use the facilities for practice teaching and as a demonstration site for exploring innovative teaching methods.



educators today advocate the heretofore-unchallenged prescription of having all students doing the same thing at the same time. Team teaching and small-group activities are the preferred methods of teaching.

"Classrooms need more corners," says Sanoff, "so that several activities can go on simultaneously." He insists that an L-shaped classroom is optimal for the kind of agility Bordwell advocates. "It's more effective and allows the space to be divided into two perpendicular rectangles," Sanoff explains. "The goal is to create a geometry that accommodates different activities."

SANOFF ACKNOWLEDGES THE INTERNET WILL HAVE A TREMENDOUS EFFECT ON TEACHING, AND NEW DESIGN STRATEGIES WILL BE BY-PRODUCTS OF THIS.

Unfamiliar with Sanoff's theories, Steven Turckes, the Perkins & Will principal for the Harold G. Fearn Elementary School, discovered the L shape by looking back 60 years to the first school Larry Perkins designed (in collaboration with Eliel and Eero Saarinen). Opened in 1940, Crow Island School in Winnetka, Ill., used L-shaped classrooms with extensive built-in storage units to supply group activities. Recognized as ahead of its time by decades, the school ranked 12th in a 1956 RECORD poll surveying the most significant American buildings, and it ranked first among schools of the previous 100 years. Turckes' updated version takes four L units and gathers them into a cluster. Each unit has a "wet" area with counters and sinks for art and science projects, as well as an open learning area with movable partitions connecting it to the adjacent cluster. All four spaces offer direct access to the outdoors.

Again at West High School, Perkins & Will departs from the old model with a radically different addition to a 30-year-old school. "This is a late 1950s factory-model school with double-loaded corridors lacking physical connection between subjects," says Turckes. Then he echoes Sanoff and Peele by acknowledging the need for spaces that can accommodate a more interdisciplinary approach to learning. The new wing houses a technology center on the ground floor and a health sciences academy on the second level. The tech center supports the



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CIRCLE 52 ON INQUIRY CARD

academy with hardware and software for simulating experiments and learning science, but it also has a CAD lab connected to a fabrication shop and a video production lab. Such diverse activities need agile spaces, so the architects created large spaces surrounded by smaller ones, which can be reconfigured with sturdy, dense panels that lock together.

Sanoff, as both scholar and practitioner, has intriguing predictions for the future of education. He acknowledges that the Internet will have a tremendous effect on teaching and that new design strategies will be by-products of this. "Teachers will not be required to be experts in many fields. The experts are on the Internet," he insists. "The teacher's role will evolve from giving information [from behind a lectern] to facilitating students working in groups doing different things." Teacher teams at CCMS have private offices and individual workstations, so they can do their own research and monitor class Web sites, not just grade papers.

DEVELOPING A COOKIE-CUTTER PROTOTYPE TO BE REPEATED OVER AND OVER WILL NOT BE AN ACCEPTABLE OPTION.

Although the information-technology juggernaut has fueled a sweeping sea change in teaching practices, architects should not underestimate the impact that community involvement will have on the front end of the design process. The development of a cookie-cutter prototype to be repeated over and over will not be an acceptable option, as these architects have demonstrated. For the first time in nearly two generations, architects have the opportunity to reinvent one of any nation's most vital building types. ■

Numbers tell an alarming story

The U.S. Department of Education has an extensive Web site (www.ed.gov) with links to dozens of agencies and hundreds of reports. A sampling of department statistics are listed here. Links to Web pages devoted to school construction and design are listed on the RECORD Web site at www.architecturalrecord.com.

- The National Center for Education Statistics (NCES) reported in 1999 that America's schools are wearing out. The average public school is 42 years old, and school buildings begin rapid deterioration after 40 years.
- NCES also reported that approximately one-fifth of schools indicated less than adequate conditions for life-safety features, roofs, and electric power. Forty-three percent of the schools reported that at least one of six environmental factors was in unsatisfactory condition. About one-third (36 percent) of schools indicated that they used portable classrooms.
- The proportion of teachers using the Internet in teaching continues to climb along with school connectivity—from 65 percent in 1998 to 85 percent in 2000.
- Last September, 53 million children entered public and private elementary and secondary schools in the United States—the highest enrollment in U.S. history and a net increase of 8 million school children in the last 15 years.

AIA/ARCHITECTURAL RECORD CONTINUING EDUCATION

INSTRUCTIONS

- **Read the article "A new era in school construction begins" using the learning objectives provided.**
- **Complete the questions below, then check your answers [page 226].**
- **Fill out and submit the AIA/CES education reporting form [page 226] or file the form on ARCHITECTURAL RECORD's Web site at www.architecturalrecord.com to receive one AIA learning unit.**

QUESTIONS

1. Why do the traditional school design concepts of double-loaded corridors need to change?

2. What is an agile space?

3. How is the physical space of school libraries changing?

4. What is the concept behind replacing rectangular classrooms with L-shaped ones?

5. How is new information technology changing the role of teachers?

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Digital Architect

Self-Service Design

By Jerry Laiserin, FAIA

A current fad among computer cognoscenti involves comparing and contrasting today's technology with that predicted in the 1968 film *2001: A Space Odyssey*. The filmmakers pictured computers of the future as fully sentient entities, possessing enough artificial intelligence (AI) to think independently and converse with humans in natural language. The reality of today's actual computer technology falls far short of that cinematic vision, and the term "artificial intelligence" and its close kin, "expert system," have both fallen out of fashion, largely because they failed to live up to the initial hype. However, the underlying intent—to deliver machines capable of solving problems by mimicking human inductive and deductive reasoning processes—not only endures but is enjoying a resurgence on the Internet, where thousands of nonexperts regularly seek access to expert answers. Whether the problem at hand is the optimal layout of a ceiling tile grid, the most efficient arrangement of office cubicles, or a suitable site adaptation for a national retail chain, the budding convergence of AI and the Web is rapidly blossoming into a self-service digital alternative to many procedural, repetitive design tasks, with higher-level design services soon to follow. The implications of these services on the design profession could be profound. Architects need to understand the phenomenon in order to recognize and prepare for both the threats and opportunities it represents.

THE CONVERGENCE OF AI AND THE WEB IS BLOSSOMING INTO A DIGITAL ALTERNATIVE TO MANY DESIGN TASKS.

Contributing editor Jerry Laiserin, FAIA, provides strategic consulting services to architects and their technology providers.

WWW For a list of vendors involved in self-service design, and more information on technology for architects, go to Digital Architect at **www.architecturalrecord.com**

Thinking machines

Broadly speaking, efforts to apply AI techniques to "creative" problem solving can be divided into two approaches. In generative or rules-based systems, the computer is fed information about relationships among entities and constraints (for example, the number of classrooms to be added to a school, and the maximum square footage available at the site), and then let loose to calculate solutions that best match the problem criteria (much like IBM's chess-playing machine, Deep Blue). New compositions and design alternatives can thus be generated by using such systems. As early as 1975, CAD theorists George Stiny and William J. Mitchell, both then at UCLA and now both at MIT, reformulated Andrea Palladio's design principles into a grammar, or set of rules, for generating villa plans and elevations. This Palladian grammar included rules for the acceptable sizes and proportions of rooms, or for relationships among rooms (for example, terminating the axis of a suite enfilade in either a window or a hearth). Stiny and Mitchell's work served as background to Yale art historian George L. Hersey's 1992 software program, Possible Palladian Villas. Similar principles are embodied in software like winSABA, a stacking and blocking algorithm for Windows, developed by computer scientist Robin S. Liggett, who teaches in UCLA's Department of Architecture and Urban Design. While large design firms—such as SOM, with its Building Optimization Program (BOP)—have had in-house capabilities like this for decades, the commercial availability of tools like winSABA now make it possible for would-be design clients to perform a significant portion of predesign services for themselves.

The other principal approach to AI in design also is rules-based but derives configurations from preprogrammed collections of specific components, rather than generating new arrangements from more general rules. Often called configurators, these programs work like a kit of parts—one with so many pieces that no human could possibly reach an optimal solution. Such software was originally developed by computer manufacturers to ensure that their hardware system orders were filled with all necessary components (for example, if a customer ordered a printer with built-in stand, the software excluded a separate printer stand but included the special cable for that printer). Configurator systems can be applied to directly comparable problems, such as resolving the myriad options



Giza represents a new class of self-service design applications—here, office design, with interactive Internet capabilities.

IMAGE COURTESY EAGLE, INC.

in an office systems furniture order, or they can be extended to such tasks as deriving complete designs and equipment plans for complex surgical suites in healthcare facilities.

Architecture without architects

From an end-user perspective, neither the specific AI heritage nor the design provenance of any tool is as important as the results that can be achieved with that tool. Office design Web sites like Giza.com allow users to conduct self-service design tasks that range from initial space planning, through furniture selection and configuration, to 3-D renderings. Although designers themselves can and do take advantage of such services on behalf of their clients, the real significance of intelligent services like Giza.com is the potential for prospective clients to use these services on their own—without the intervention, participation, or fee of an architect or interior designer.

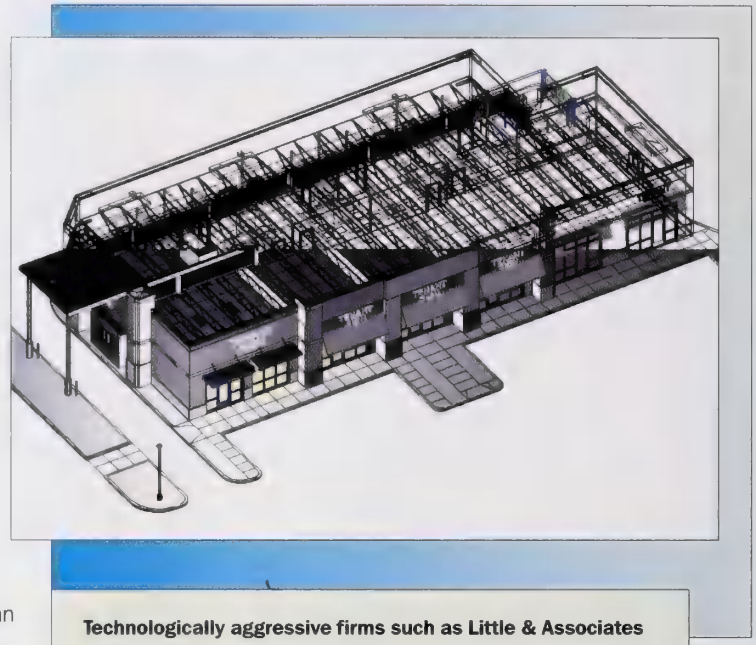
Similarly, healthcare administrators now can avail themselves of free departmental planning services and equipment configurations at Neoforma.com, again without seeking early-phase advice from an architect specializing in health care. Neoforma isn't capable of designing an entire hospital, and some of the configuration options are limited to the specific offerings of the equipment manufacturers who sponsor the site. But the service does portend an erosion in the perceived value of a portion of some architects' services.

Architects R Us?

A few savvy architects are bringing systems like these in-house to offer enhanced services to their clients at lower cost, and in some instances at no cost. Designers at Little & Associates, a 600-person multidiscipline A/E firm with headquarters in Charlotte, N.C., use computers and CAD in sophisticated but still conventional ways to design a wide range of building types, from international banking headquarters buildings to college and university facilities. Little has a significant specialization in what the firm calls roll-out retail—large, multilocation building programs for chain-store merchants such as Wal-Mart, Home Depot, and CVS. For these clients, a key design goal is brand identity and consistency of the shopping experience across hundreds, even thousands, of stores. On the other hand, a key goal for the architects assigned to these projects is designing tens of millions of square feet of retail space annually in the most efficient and uniform manner possible, while accommodating a wide range of regional and local plan variations and specific site adaptations. Little's solution, according to Senior Associate Jim Gleeson, AIA, has been to develop in-house configurator programs, or software wizards, which calculate and produce fully detailed drawings from a comprehensive set of prototypical options for each big retail client.

SAVVY ARCHITECTS ARE BRINGING RULES-BASED SYSTEMS IN-HOUSE TO OFFER ENHANCED SERVICES TO OTHER CLIENTS.

Once all the possible prototype variations and the rules for configuring them have been programmed by designers, the software produces the final design. Until recently, this final configuration process remained in the hands of architects, not clients, in part because of the complexity involved in extracting specific configurations from a complete set of prototype variations all collapsed into a single AutoCAD 2-D file. However, Little recently has begun exploring the possibility of enhancing the configuration process through the use of next-generation CAD tools, such as Autodesk's Architectural Desktop, Graphisoft's ArchiCAD, or Revit Technology's eponymous software. Because such software embodies AI-like rules-based behavior in their intelligent 3-D objects, firms like Little can offer more powerful configurator services that can be easily manipulated directly by their clients.



Technologically aggressive firms such as Little & Associates use software tools like Revit to help clients configure multiple model variations from prototypical kits of parts.

Design online

Take the free, self-service capability that Web sites like Giza or Neoforma offer without architects, combine it with the client-driven configurator services provided by A/Es such as Little, and the end result would be very much like SchoolBlueprints.com, a new design service under development by The Hillier Group (THG), a 450-person architectural firm based in Princeton, N.J. An online tool for school superintendents or other decision makers to cost-effectively design a school on their own, SchoolBlueprints will be available at three levels of service. The first level allows input of simple parameters, such as "K–5 school for 300 students," from which the software calculates a list and arrangement of recommended rooms and room sizes, based on THG's experience in designing K–12 educational facilities. The second level allows the client to move parts of the school plan, editing different configurations until the design output is suitable for use as the basis for preparing construction documents (CDs), a level-three service. While level three requires an architect to produce the CDs for a professional fee, THG intends to offer the first two levels of service—the equivalents of programming and schematic design—at no charge. THG's director of corporate communications, Cecily Laidman, notes that users will have the option of bringing their free SchoolBlueprints designs to any architect for CDs, although THG expects to garner a fair share of that fee-generating service for itself.

While the computer systems that power Giza, Neoforma, or SchoolBlueprints are not capable of truly independent thought or emotional response, as the fictional HAL was in the film version of life in 2001, it is clear that technology in the world of design services in the real 2001 is taking its first steps beyond computer-aided design and into the realm of computers as designers. As these services evolve, they will—and should—become fodder for future exploration and discussion among architects. ■

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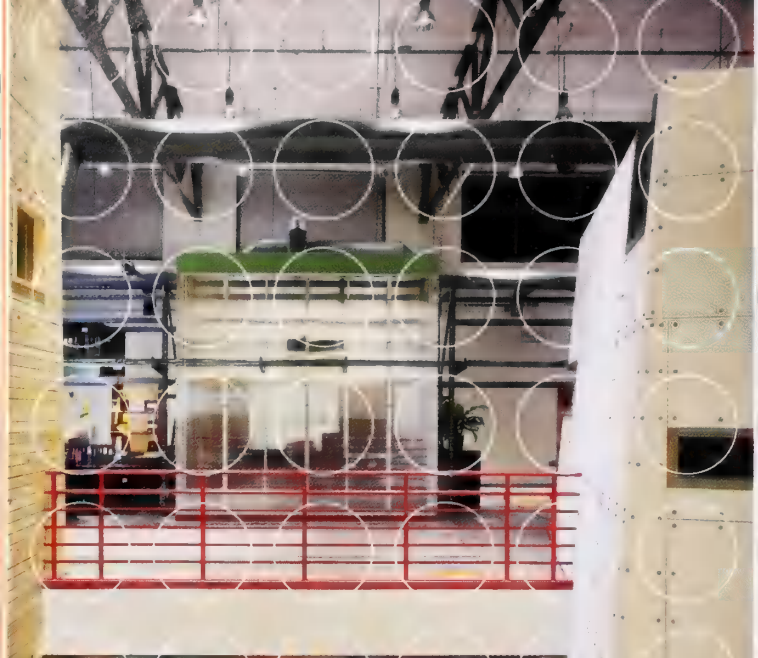


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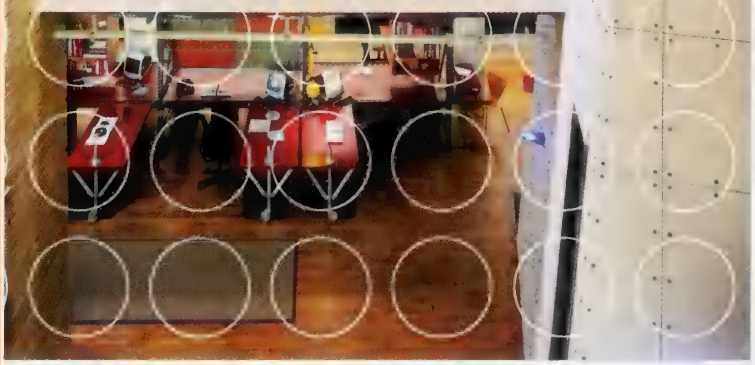


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ARCHITECTURE MATTERS IN THE NEW ECONOMY

GOOD DESIGN IS GOOD BUSINESS

Design Strategies for the New Economy

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AIA/ARCHITECTURAL RECORD Continuing Education

Use the learning objectives below to focus your study as your read **Architecture Matters in the New Economy.** To earn one AIA/CES Learning Unit including one hour of health safety welfare credit, answer the questions on page 170 and follow the reporting instructions on page 226. Or use the Continuing Education self report form on ***Record's*** Website, www.architecturalrecord.com.

LEARNING OBJECTIVES:

- To discuss the relationship between business and architecture.
- To discuss the needs of information technology companies in their workplaces.
- To describe how work environments can be designed to encourage collaboration.

Creative management practices and creative architectural solutions go hand in hand to achieve successful businesses. As companies change their operations and practices to respond to new market forces, globalization and technological changes, the design of their facilities must respond to these new challenges as well.

On November 17, 2000 during a stimulating afternoon symposium, leading architects and top business executives discussed case studies illustrating the two-way influence between design and new economy dot-com companies. A concluding session showcased and celebrated the 10 winning projects in the 2000 *Business Week/Architectural Record* Awards, demonstrating that "good design is good business."

When one building of a new corporate campus for Sun Microsystems was ready for occupancy, an engineer at the company proposed a test to the site's designers to see how well they had understood the organization's needs. If he could walk from his car in the parking lot to his office without bumping into a single co-worker, he explained to the architects, then the design had failed. Apparently what Sun employees require is an environment where interaction is the rule.

This working exchange between the computer company and the architectural team who created a new workplace for its fast-growing organization was recounted by one of the team members during a symposium held at The National Building Museum in Washington, D.C. last November. Two other companies, Oxygen Media and Eisner Communications, joined Sun to discuss their own recently completed office design projects.

Clearly there was a distinct trend toward open, flexible, informal work environments that encouraged collaboration.

Nowhere to be seen was the traditional industrial plan with its bunkered offices and 90-degree cubicles. Instead, workplaces were built on a hierarchy of group activity. Sun's parking lot, for example, surrounds the entire site, making it impossible for employees to enter or exit their buildings without coming into contact with the rest of the organization. At Oxygen and Eisner space was devoted to communal areas. Workstations surrounded them. Everyone used them.

What's significant about the design direction taken by Sun, Oxygen and Eisner is that all three organizations are notable players in the new information-based economy. Sun is the technology giant behind Java. Oxygen produces Websites and television programming for women and also the publishes Oprah magazine. Eisner is the second-largest

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advertising firm in Baltimore.

According to Herbert McLaughlin, master architect on the Sun project and a principal at Kaplan, McLaughlin and Diaz in San Francisco, research done by his firm backs up this new scheme in work facilities. "E-culture has completely redefined the attitudes toward the workplace," he said. "There is a real interest in detail, variety, community and work. It's seen as enjoyable, continuous and transportable."

Community. Openness. Fun. If these are the characteristics businesses are requesting for the 21st century office, architects are going to have to start finding a way to build them in. This is the challenge of designing in the new economy.

Approximately 500 business executives, architects, and students gathered at the symposium in which Oxygen, Eisner and Sun participated to hear what solutions they had divined.

The event was part of an afternoon conference, "Good Design Is Good Business," presented by *Business Week*, *Architectural Record* and the National Building Museum in association with the American Institute of Architects, it was also in honor of the 2000 *Business Week/Architectural Record* Design Award winners. It was the fourth year that *Business Week* and *Architectural Record* conducted the affair, which celebrates the relationship between business and architecture.

At this latest function there was a deliberate focus on solutions for creating space in the midst of rapid technological change.

"What we are trying to do is catch the tenor of the times and trying to understand phenomena that are unfolding around us with almost lightening speed," Bob Ivy, editor-in-chief of *Architectural Record,* explained to the audience. "We are here to find out where we are."

Sun, which employs about 40,000 people worldwide, represented a very large-scale project for the symposium's purpose. Three buildings plus cafes, homes and drop-in centers are planned for their subject location in Newark, California. "The principle of the site plan was to encourage both discovery and community," commented McLaughlin while displaying slides of the campus' prototype. "The idea was to create spaces that everybody could possess or feel a sense of possession."

Unlike Sun, Oxygen and Eisner did not have an entire campus or building with which to craft the flexible open environment needed to support the innovative process of their workers. So for them, the furniture system became a very important piece of architecture in creating the interactive workplace their employees needed.

Oxygen converted the top two floors of an old cookie factory in the meat-packing district of New York City for 600 employees, and Eisner renovated 55,000 square feet of an old furniture factory in Baltimore's Little Italy for its 300 workers.

A NEW STANDARD IN OFFICE DESIGN

Oxygen built workstations with skateboard wheels and mounted them on a tire track system. Because of the way it looks, the architect, Richard Fernau and Oxygen's co-founder and CEO Kit Laybourne called the construction a zipper. The desks are able to glide thus giving workers the ability to align themselves according to how they are working. "There are moments when they are in the zone and completely buffered," explained Laybourne. "And then there are times when they are working in groups. It's amazing to make that into one workstation, but we solved it."

How do you free people from a cube that's isolated from others?

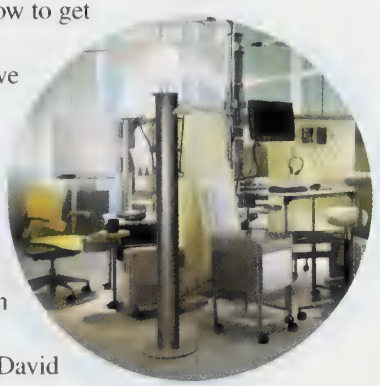
"Most major companies need furnishing to be reconfigured easily," observes Mark Schurman of Herman Miller. "With the ongoing rate of technological change, and the rate of employee movement within facilities, flexibility is very important."

Herman Miller along with Milliken Carpet and Bentley Systems, Inc. sponsored the conference. It was Herman Miller who first ignited the office design revolution with an earlier emphasis on efficiency and collaboration.

Back in 1968 they introduced office furniture as a system of freestanding pieces, which were then adapted by designers and manufacturers to create the ubiquitous cubicle. Up until then, the typical American office was arranged in one of two ways. A large room with employees' desks lined up in neat rows with the boss' office situated at some omnipresent angle, or merely a series of private offices.

The cubicle basically placed each worker in a box with no top. The idea was to give individuals privacy without the high cost of erecting architectural walls while at the same time encouraging communication made easy by the low height of the panels. Since its inception, the "cube" has become a generic term for any multi panel ceilingless unit, which separates one worker from another. That's how revolutionary it was. Try to imagine the modern office without it.

Designers and manufacturers have been envisioning such a workplace and have been creating new office systems to put into it. "The first thing we did was begin to think about how to get people to work together, when we began to recognize the changing dynamic of the workplace about five years ago" said the former Chairman of the Board at Herman Miller, David Nelson, said about the company "How do you free people from a cube that's isolated from others?" he asked the audience.



Compartmentalization certainly must be abandoned as an office design approach for businesses in the new economy. Instead the project team nature of today's workplace demands that an emphasis be placed on connectivity. The furniture system can do that as long as it enforces the organic personality of the office.

The workstation, for example, should function as an extension of an individ-

ual's body. An employee should be able to see and speak to a co-worker with a simple adjustment of posture or a tilt of the head. Learning and collaboration, in other words, should be at each worker's fingertips. The zipper that Oxygen used allows employees to participate in a tete-a-tete by gliding up to another worker. The employee and the workstation are one.

People are no longer interested in being someone else at work. They need space that expresses who they are.

The cubicle continues to be a design reference point, however. By widening its angles and using more translucent materials for panels, manufacturers have been able to introduce systems that fit into the open flexible environments desired by the knowledge worker.

This flexibility applies to more than just the vast physical range a system gives an employee. It also directly relates to how easily the construction can be reconfigured. Market forces and technological change are scrambling workers within different industries on a day-to-day basis. The office system should be just as interchangeable.

Some features of the newer designs include small parts and pieces and lightweight materials that make reconfiguration easy and inexpensive.

While office design has increased emphasis on group activity, there is still, as Oxygen's Laybourne pointed out, a desire on the part of employees to work without distraction at some point.

During the question-and-answer period at the conference, audience members peppered the presenters with inquiries about balancing this need for public and private space.

The conflict can be settled acoustically or visually. Visual solutions are efficient for the new workplace, because office system features like fabric color schemes and canopies can easily define an individual space.

The visual details help personalize it as well.

"There is a blurring now between worklife and homelife," observes Herman Miller's Schurman. "People are no longer interested in being someone else at work. They need space that expresses who they are."



TECHNOLOGY OFFERS ALTERNATIVES FOR EXPRESSING COMPANY IMAGE

This need for self-expression also has a macro side.

Before introducing Ground Zero, an ad agency that received a BW/AR award, Julie Eizenberg, a competition judge, asked the audience, "If you were looking for an advertising agency, wouldn't you want to find one that really could brand itself and create a compelling customer experience?"

When you walk into a space, within seconds, without verbal prompts you should grasp the essence of what a company is about

Brand identity, after all, has not been lost in the new economy. "It's more important than ever," says Bill Erwin, corporate design manager of Milliken Carpet. "Everything is moving so fast these days that company's need to have a strong image. Even the competition for talent can be supported with strongly branded work spaces."

For Eisner its image as a top-notch advertising firm was just as important as creating an office its workers would want to come to every morning. The place they took over, The Bagby Building, was a Baltimore institution. They enlisted Gensler Architecture, Design & Planning Worldwide to help them put their fingerprint on it.



"They realized that design can make a big difference in the success of their organization," said Diane Hoskins, managing principal at Gensler's Washington, D.C. office.

"Their goal was to create a brand factory. The space would be a way for Eisner to communicate and express themselves to their clients and visitors. From a design standpoint, that meant pushing to the edge with new kinds of spaces and new geometries in the design."

They used scaffolding extensively to delineate brand teams, which created an urban village atmosphere. The building's loading dock was converted into a garden. Other areas were transformed into interstitial getaway spaces. A freight elevator, for example, was filled in with glass block and furnished with elegant chairs and a table. It serves as a respite, according to the designers, to restart creative engines. The boiler room became Eisner's family room complete with divan and a coffee table.

"When you walk into a space, within seconds, without verbal prompts, you should grasp the essence and culture of the company," says Milliken's Erwin. "Branding needs to be focused and very strong to accomplish the proper identity."

There can be no doubt when walking into Eisner's offices that they are open to fresh ideas and in the business of creative thinking. Imagine how reassuring that is to a potential client.

What are the alternatives for companies trying to maintain an overall image with much more emphasis being placed on the individual worker? How do you wrap up so many brilliant singular expressions into one distinctly recognizable brand? Eisner is an exceptional example. They hired one of the world's leading design firms, and devoted a lot of

resources to their renovation.

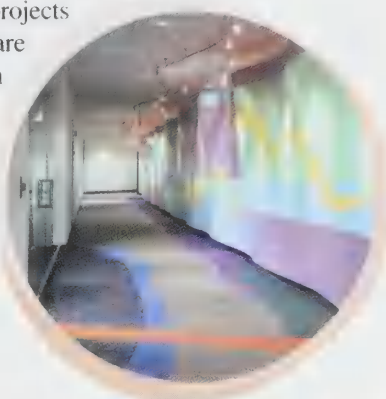
"We let the inner discipline of branding ourselves from the inside out take hold," said Steve Eisner, president and CEO of the company. "When it was full steam ahead, we didn't compromise on a partner."

One element available for designers of any sized project is the floor plane. Every space is designed from the floor up. Whether it's an airport or a 500-square-foot dot-com, flooring is a variable that can tie up a myriad of individual parts into one cohesive image.

Consider carpeting. Once used as a very minimal finish, it now can be adapted for dramatic impact. Computer-driven technology is available to create custom patterns that can flow from an executive's imagination or be taken from a photograph.

The traditional graphic tufting does not allow this literal brand expression. "Tufted designs in carpet have reached a plateau. Everyone's carpet has started to look the same," observes Erwin. "Designers now are striving to work with materials that have mass customization abilities. This enables them to transcend sameness," says Erwin.

As with any digital platform this technology is speedy. That's important for projects with short timeframes as most are today. The time line for the Sun project was 11 months and Oxygen had about ten to get their office ready.



Speed. Flexibility. Openness. The challenges of designing in the new economy are simply a reflection of the market itself.

TECHNOLOGY FOR DESIGNING IN THE NEW ECONOMY

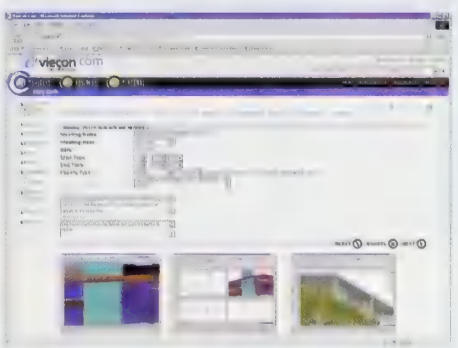
The company executives and architects who comprised the design teams of Sun and Oxygen were associates who had built productive working relationships on other projects. They trusted each other's judgement. All three companies including Eisner literally worked side by side throughout their project life cycles.

Certainly, e-mail was exchanged, and Internet services jointly used. Discussion did not focus on this aspect of working partnerships. A few years ago it would have been hard to imagine such architectural presentations without the mention of the design and collaborative activities made possible by Internet technology. Perhaps it's a good sign that the technology is so firmly integrated into the industry that it's not spoken of as something new. It makes good sense since architecture is rooted in communication anyway.

All of the project teams presented compelling cases of designing for the new economy, but they did not elaborate on designing inside the new economy. However, some of the award winners spoke about using online services that located design software and project extranets at one Website address. That's certainly worth talking about.

Manufacturers have progressed from making architects, engineers and designers more efficient in just creating drawings to also facilitating collaboration throughout the life of buildings. Key motivations behind this current technology was that the data that went into the original drawing could be kept useful in digital format, updated during construction and then used by the owner/operator for the rest of the building's existence. It's a matter of engineering information management.

One Internet-based system widely employed by some of the awardees actually managed architectural and engineering information – not just as drawings, but as a virtual model of a facility. All the information about a building or project was stored in one database instead of multiple discrete computer files. It also addressed the problem of change management. Everyone involved in a project had access to the same information at the same time, and incompatible versions of computer files were eliminated. Since the system was Web-based, it provided access to communication, collaboration and commerce for all.



E-culture has redefined more than just the office. It has redefined the way the office is designed.

MILLIKEN & COMPANY

Milliken is a 135-year-old international textile and chemical firm with more than 16,000 associates and 65 manufacturing facilities worldwide. Its headquarters are in Spartanburg, South Carolina. Milliken Carpet's computer-driven Millitron Imaging System for carpet tiles was introduced in 1973.

BENTLEY SYSTEMS, INC.

Founded in 1984, Bentley Systems provides technology for operating permanent assets such buildings, roadways, utilities and telecommunications. Its headquarters are in Exton, Pennsylvania. Its Viecon network integrates communications, collaboration and commerce for engineering/construction/operations networks, Bentley products were used by some of the winners of the last year's *Business Week/Architectural Record* Design Awards.

HERMAN MILLER, INC.

Herman Miller, headquartered in Zeeland, Michigan, has been designing and distributing interior office furnishings since 1923. Its newest innovation in office systems is Resolve, which was introduced in 1999 and has received international design recognition, including Gold in the Annual IDSA/*Business Week* Design Awards.

LEARNING OBJECTIVES:

- To discuss the relationship between business and architecture.
- To discuss the needs of information technology companies in their workplaces.
- To describe how work environments can be designed to encourage collaboration.

INSTRUCTIONS:

Refer to the learning objectives above. Complete the questions below. Then turn the page upside down and check your answers. Fill out the self report form on page 226 and submit it or use the Continuing Education self report form on ***Record's*** web site - www.architecturalrecord.com - to receive one AIA/CES Learning Unit including one hour of health safety welfare credit.

QUESTIONS:

1. What are the current office character trends that relate to architectural design?

2. What changes are being made in office cubicle design?

3. What is the concept behind the new office environments?

4. How can flooring take advantage of new technology and create individualism for companies?

5. How is a worker's sense of privacy maintained in this new atmosphere?

6. Why is this new trend in collaboration taking place now?

ANSWERS:

1. Office character now tends toward collaboration and flexibility. At one time offices consisted of a large room with rows of desks. Then office cubicles were designed to give workers privacy so they could be more productive. Now the nature of project teams demands that people work together instead of in isolation. The trend is towards open, flexible, informal work environments that encourage collaboration.

2. Office cubicles are no longer used to separate workers in neat rows with square corners. The workstation needs to function as an extension of an individual's body. Cubicles are still the reference point for design, but the angles can be widened and materials can be more translucent and lightweight for ease in reconfiguration.

3. The concept of these new office workspaces is to create an environment that stimulates innovation, creativity, and a sense of possession for the workers. The distinction between worklife and homelife is blending and workers are allowed spaces to express themselves.

4. Most offices use carpeting for floor covering. Computer driven technology can create custom patterns for a company and give a dramatic impact and corporate identity.

5. Sometimes employees need to work without distraction. This can be accomplished acoustically and visually through the use of fabric and canopies. Companies are also allowing workers to individualize their workstation through selection of color and visual details.

6. Collaborations are much more possible now because of the technology available. The internet and its ability to send instant communication, pictures, and drawings to another location allows collaborations to work.

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You Don't Have To Be Famo To Create A Masterpiece

16th CENTURY STONE

Project: **St. Peter's Basilica**
Designer: **Michaelangelo**
Product: **Marble & Travertine**

The greatest church of Christendom was begun in 1506 under Pope Julius II. It had 13 chief architects, including Michaelangelo, who held the post until his death in 1564. The top of its cupola rises 435 feet above St. Peter's Square, almost 150 feet taller than the U. S. Capitol.



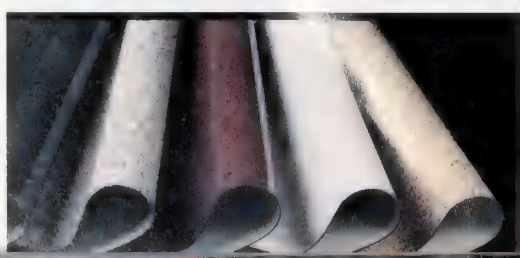


21ST CENTURY STONE

Project: **Capital Commons**
Architect: **Smith, Hinchman & Gryllis Associates, Inc.**
Product: **ALPOLIC® Red Granite**

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Lighting Designer:
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LIGHTING...



1



2

The failure of California to deregulate its electric utilities, as detailed in energy guru Lindsay Audin's story on curtailable rates [page 195], has been a mixed blessing. It has reawakened us all to the fact that utilities in certain regions of our country sometimes run close to maximum capacity in generating and distributing power. During those times, electricity costs are dear. But such crises drive innovation in the lamp, controls, and luminaire businesses, and force consumer and industrial electricity users to adopt technologies that, in the past, would have been impractical due to start-up costs.

The initial reaction to the energy crisis of the winter of 1973–74 prompted cuts in power consumption first, followed by worries about quality of life later. This was a mistake. For some of us, the phrase "energy conservation" will forever stir recollections of darkened downtowns, frigid offices, and classrooms stripped of half their lights. Human beings depend on light for emotional well-being, and perhaps the most significant effect was that Americans—cold and sitting in the dark—felt we had succumbed to a nationwide emotional slump.

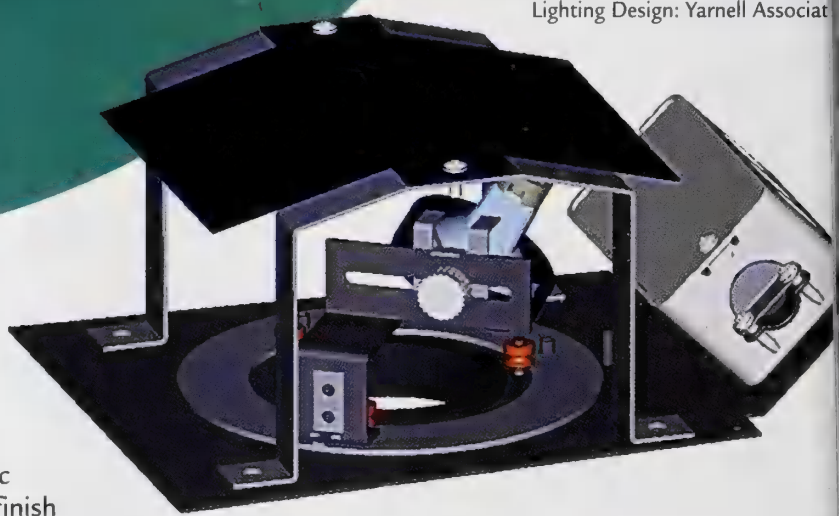
Fortunately, more efficient lighting was developed and, as energy prices eased, the use of lighting as a decorative and not merely functional element made a comeback. For the last 15 years we've had a lighting renaissance, with designers using illumination as freely as they formerly used paint, to festoon such things as the mile-long series of pylons at Los Angeles International Airport (1), and Foote, Cone & Belding's office lobby walls in San Francisco (2). My hope is that the rolling blackouts, amazing peak-demand charges, and the ensuing panic that has been accompanying these crises of late will not bring to an abrupt end the lumen renaissance we've been enjoying, and that we won't have to relearn, the hard way, the value of good lighting to the quality of human life. *Charles Linn, AIA*

177 **Creative uses**
[illegible] **Project portfolio**
South Park Fabricators
[illegible] **Tribeca Grand Hotel**
Focus Lighting
[illegible] **Technology: Soothing the pain of soaring power prices**
[illegible] **Lighting resources**

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Project: Marquette Building, Chicago,
Lighting Design: Yarnell Associat



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Examine the Design Possibilities

Creative Uses

A field of color-washed towers beams WELCOME TO LA to airport travelers • Norman Foster's bank tower in Frankfurt is wrapped with a new light plan designed by artist Thomas Emde

A mile-long gateway of internally illuminated pylons adds a light show to the LAX itinerary





The LAX Gateway project encompasses 26 pylons lit by automated luminaires and PAR cans fitted with metal halides.

An expansive municipal project puts the phrase "Welcome to LA" in a new light. The gateway to the Los Angeles International Airport (LAX) has been enhanced with a one-mile-long installation of pylons animated by a kinetic display of light and color. Part of a $112 million enhancement program, the project enlisted a long roster of collaborators headed by principal designer Ted Tokio Tanaka Architects and project consultant Nadel Architects. Comprising 26 pylons and a 32-foot-high LAX sign, the artwork features environmental graphics by Selbert Perkins Design Collaborative and illumination by Moody Ravitz Hollingsworth Lighting Design. Artist Paul Tzanetopoulos mapped out the color variations of the choreographed light show, while Lighting Design Alliance developed the lighting concept.

Dubbed the Psychedelic Stonehenge by local residents, the field of lights is visible from 30,000 feet in the air and remains illuminated from dusk until dawn. The light show displays more than 300 color variations orchestrated into a looping, three-hour program.

"The initial design concept called for concrete towers that would be externally lit," says principal lighting designer Dawn Hollingsworth. "During design development, the program shifted to internally illuminated glass pylons. It became a stronger design statement, and easier to create uniformly glowing forms. An added benefit is how the glass panels shift hues in the daylight."

The seismically engineered pylons wrap cylinders composed of translucent, tempered glass panels around steel-truss support frames. Eleven towers run along the Century Boulevard median approaching the airport, ascending from 25 to 60 feet in height to evoke an aircraft taking flight. The installation culminates at the intersection of Century and Sepulveda Boulevards with a 560-foot ring of 15 towers, each 12 feet in diameter, with an average height of 100 feet.

Although programmed via DMX controls to perform light changes in tandem, the Century and Sepulveda towers are illuminated differently, based on their varying sizes and site conditions. The Century towers are illuminated with 264 outdoor fixtures modeled on theatrical PAR cans, topped with weatherproof color scroller/faders. Two overlying strings of gels mix light to create hundreds of deeply saturated colors. The PAR fixtures use 150-watt, metal-halide lamps with a color temperature of 4000K.

For the larger Sepulveda towers, 480 automated luminaires employ internal, glass dichroic lenses to mix the color effects. The fixtures house metal-halide lamps with a color temperature of 5900K.

Each fixture has a 45-degree beam spread, requiring eight fixtures along each staggered vertical level of the pylon to create an even 360-degree glow of light. Fixtures are focused upward to avoid hot spots along the exterior.

In addition to the towers, Hollingsworth illuminated the oversize LAX sign with 100-watt metal-halide floodlights. New landscaping, including palm trees along airport access routes, is enhanced by in-ground and ground-mounted PAR30 metal halides. *Nayana Currimbhoy*

The translucent Commerzbank Tower lights up the night sky with a yellow glow

Designed by Lord Norman Foster and Partners and completed in 1997, the Commerzbank Tower dominates the skyline of Frankfurt, in the heart of the city's financial district. With its triangular footprint and architectural design incorporating four-story-high interior gardens spiraling around a central ventilating atrium, the 53-story building has spurred debate regarding its ecologically sensitive advancement of the skyscraper form [JANUARY 1998, page 68]. While its naturally ventilated skin, column-free floor plates, and gardens in the sky have been cited as Foster's ingenious solutions supporting office work, the tower's after-hours image has remained muted. Now an exterior illumination plan conceived by artist Thomas Emde heightens the tower's nighttime profile.

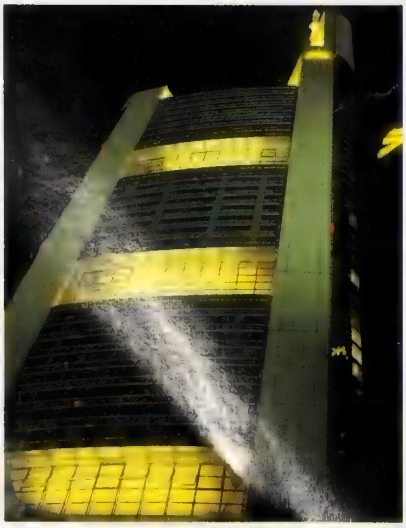
Emde, a Frankfurt-based painter, earlier won a competition for a site-specific work to enhance the public spaces of the banking headquarters. His large-scale acrylic painting *The Great Clouds* dominates the building's lobby. In 1999 Emde was commissioned by Commerzbank management to design lighting that would elevate the transparent glass skyscraper as an enhanced corporate icon. In recent years Emde's interest in color and site-specific work has led him to investigate electric light as a new medium. For Commerzbank and other recent illumination projects, Emde collaborated with lighting designer Gunther Hecker, lighting planner Ralf Twuwen, and project manager/art consultant Peter Fischer, operating under the umbrella name Blendwork. The team combines experience lighting concerts, television productions, and fine-art environments.

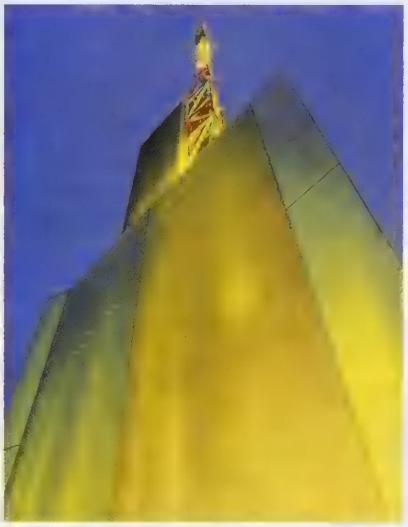
"When Commerzbank opened, there was originally a plan to illuminate the facade of the building using enormous light sources mounted some distance away from the building," says Fischer. "That plan was never implemented, so the look of the building at night had varied, depending upon which lights within the office tower remained illuminated. Our concept was to light the building using some sources projected from the inside to emphasize the structure's transparency."

The design team envisioned lighting that would call attention to the tower's signature element—nine 46-foot-high gardens staggered along the three elevations. "We wanted the gardens, which are visible in daylight only as recesses, to project a primary presence at night," Fischer says. "When backlit, the glazing that fronts the gardens frames the wonderful shapes of the plantings and trees."



Metal-halide luminaires delineate the interior gardens and perimeter structural columns (details, below) of Frankfurt's Commerzbank Tower (above).





In each garden location, the white ceiling is used as a reflective light surface. Six fixtures designed by architect Renzo Piano each house 150-watt halogen metal-halide lamps in every garden. The uplights are mounted with five-inch custom metal rods from the perimeter windows at a height of 32.8 feet. Yellow dichroic glass filters were color-matched to the bank's signature hue.

Balancing the illumination of the gardens, an array of 72 fixtures is mounted atop four roof sections to highlight the structure's upper floors and spire. Set within metal cages mounted next to rooftop maintenance mechanisms, 400-watt metal-halide lamps cast light upward along the massive composite concrete-and-steel columns at three corners of the building. The narrow-beam fixtures are set two to three feet from the edges of the roof levels to create overlapping hatches of light along exterior wall surfaces. The outdoor fixtures are fitted with cross-bar louvers to control the directional lighting. Additional 150-watt metal halides are used for short-throw fill light. By highlighting the support structures as well as the interior gardens, the lighting underscores the dynamic nature of Foster's design.

William Weathersby, Jr.

WWW For a look at another recent Blendwork lighting project, the NASPA bank building in Wiesbaden, Germany, go to Projects at **www.architecturalrecord.com**



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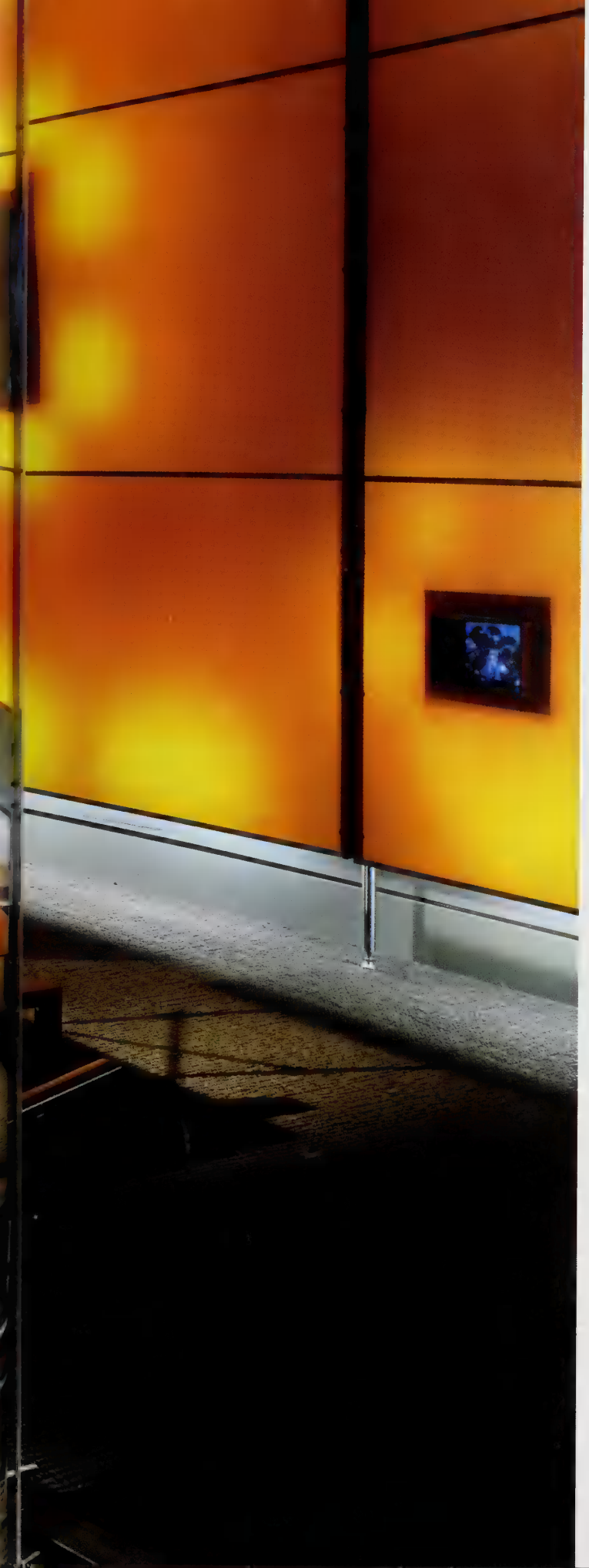
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Lighting, furnishings and wall panels designed by South Park Fabricators enliven the lobby waiting area of the Foote, Cone & Belding advertising agency in San Francisco. An armature of phenolic panels within a steel frame is backlit by fluorescents.



PHOTOGRAPHY: © CESAR RUBIO

A West Coast design firm fabricates custom lighting and architectural forms

By Leanne B. French

Larissa Sand, principal of South Park Fabricators, says the best part of her job is watching design objects take shape in her on-site workshop. Forging the connection between materials, craftsmanship, and architecture, her self-styled atelier in the heart of San Francisco's South of Market district is part design and architecture firm, part fabrication shop. It has gained a reputation for projects that showcase finely tooled custom components, including inventive lighting fixtures.

"Lighting is the emotional side of a space," Sand says. "One's perception of a room is guided by lighting. Using illumination in less traditional ways—to light a bar top from below, outline a bench, or backlight a translucent wall—we can dramatically animate space."

The firm's custom lighting fixtures often integrate light with mechanical and sometimes kinetic elements. The corporate logo in an advertising agency's lobby, for example, is uplighted by halogen spots shining up through a trough of agitated water. Custom pendants designed for a bistro filter light from incandescent bulbs through tinted liquid suspended in glass flasks. Three of Sand's lighting fixtures are going into commercial production and will be available through the 100 Watt lighting showroom in New York City. Sand will also exhibit her designs at the International Contemporary Furniture Fair at the Jacob K. Javitz Convention Center in New York, May 19–22.

Sand's curiosity about materials and industrial design is shared by a like-minded staff of four designers and six fabricators who collaborate on the design and construction of interiors, facades, furniture, and lighting fixtures. Now a turnkey design firm, South Park was launched a decade ago when Sand met her future husband, Jeff Sand. A native Californian, he was running a shop building fixtures, furniture, and art pieces. Larissa, a transplant from the East Coast, saw a "Sputnik-like" espresso machine he had designed and thought it was "the best design I had seen since moving to California."

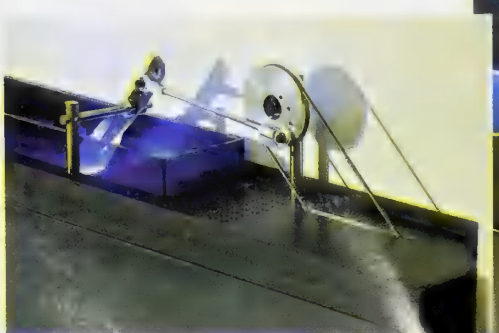
With her background in art and architecture—undergrad degrees from Brown and the Rhode Island School of Design and a masters from Berkeley—and his experience in product design, they began building furniture and then fixtures for restaurants, offices, and residences. In the mid-1990s, Jeff founded a company based on his designs for snowboarding fittings, but he remains a consultant to South Park.

While Larissa wielded a welding torch herself on early projects, today she sticks to sketching and designing on the computer, overseeing machining by her staff. "Our lighting pieces are developed through partial mock-ups in full-scale, trying out varied techniques." When working with new materials, Sand also consults with outside craftspeople and specialty shops. "You hang out with artisans and learn how they want to build things." ■

Leanne B. French, a freelance writer and editor based in New York City, specializes in architecture and entertainment design.









The onyx panels of the reception desk are backlit by 120-volt string lights (above). A custom fitting agitates a water trough (below left), filtering halogen uplighting. Sculptural pendants (right) house T10 lamps. Graphic art displayed in a corridor is spotlighted with bi-pin halogens (below right).

Lighting shapes the redesigned lobby of an advertising firm

In the redesigned lobby of the Foote, Cone & Belding advertising agency, natural materials, electronic media, and integrated custom lighting are combined to reflect FCB's image as an established yet progressive firm.

A sculptural reception desk constructed of onyx, mahogany, and steel is lit from within by 120-volt string-light fixtures. On the wall behind the desk, the agency's logo signage is illuminated by flickering blue light from below. PAR30 halogen spotlights are set within a steel-plate box. "The lights shine up through a trough of water that is agitated by a motorized paddle," explains Sand, "so the illumination on the sign subtly shifts."

Custom pendants feature incandescent T10 lamps set inside sand-blasted glass cylinders suspended by an assemblage of stainless steel and aluminum scaffolding.

In a guest waiting area, video monitors are inset in a steel-framed wall of backlit phenolic panels. "We wanted to surround the cool glow of the monitors with a warmer, luminous surface," Sand says. "There are many types of phenolic, but the material selected has an amber quality. When we tested mock-ups, we discovered that illuminating the panels unevenly with fluorescents created a graphic, sunburst effect. It was a happy accident that transformed the space."

Project: *Foote, Cone & Belding, San Francisco*
Interior and lighting designer: *South Park Fabricators—Larissa Sand, David Battenfield, Lynn Schwarzhoff, Michel Ramirez*
Design consultant: *Frank Neidhart*

Sources
Reception desk lighting: *WAC Lighting*
Custom pendant glass: *Weinstein Glass Studios*
Fluorescent backlighting: *American Fluorescent Corp.*

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Custom fixtures and furnishings enhance a Spanish restaurant

When designing the B44 Catalan Bistro—from neon-illuminated facade to custom interior furnishings and light fixtures—Sand wanted to bypass the rustic clichés of some Americanized Spanish restaurants to achieve a more urban, offbeat environment. Hard materials, including slate, steel, wood, and glass, are warmed by the glow of fluid, colorful lighting.

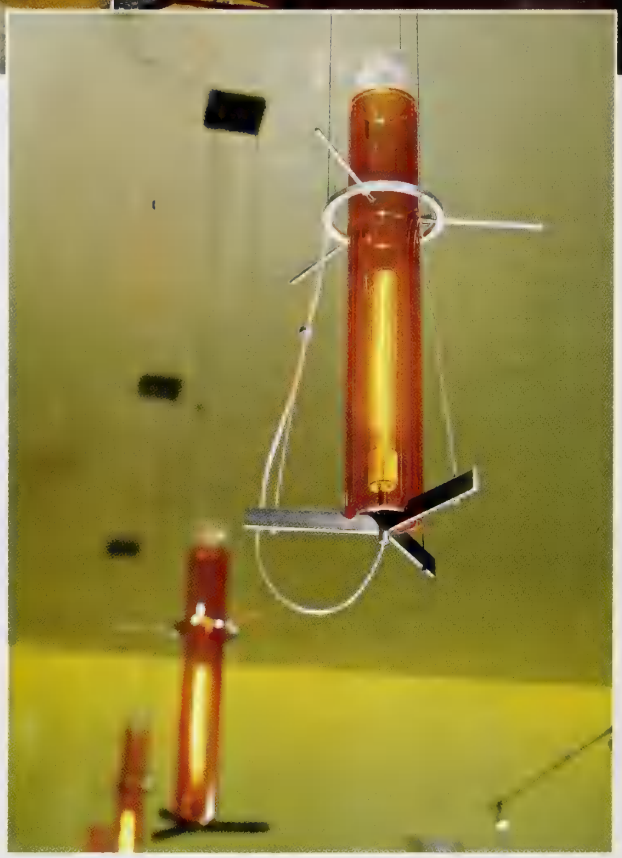
An interior wall suspends glass-and-steel panels within a steel framework. The bar is composed of bird's-eye maple, honed slate, and etched blue glass panels. Blue-gelled string lights below the slate bar top emphasize its structural components. Behind the bar, concealed halogens skim the surface of the rough concrete wall to accentuate its texture. Ambient light filtered through colored glass and gels washes wall surfaces in contrasting hues of blue and tangerine.

Custom-designed pendants, inspired by scientific equipment, create points of incandescent light overhead near the bar. "I was studying science catalogs, looking at Bunsen burners and beakers for inspiration, but I couldn't find a way to tint Pyrex glass to create the look of the pendant I had sketched," says principal designer Larissa Sand. "Then my husband and design partner, Jeff, and I were having a drink at a bar and he came up with the idea of using colored liquid to surround filament bulbs within glass tubes."

Tinted with water-soluble dyes mixed on site for the right intensity, the liquid is contained in flasks supported by a ring collar and three screws and resting on a steel base. An inner glass sleeve protects the incandescent T10 bulbs. Additional track lighting in the dining area is equipped with 50-watt MR16 halogen fixtures.

Project: *B44 Catalan Bistro, San Francisco*
Architect, lighting designer: *South Park Fabricators—Larissa Sand, Jeff Sand, David Battenfield, Lynn Schwarzhoff*

Sources
Track lighting: *Translite*
Bar and bench lighting: *WAC Lighting*
Pendant glass: *Weinstein Glass Studios*
Halogens: *Philips Lighting*
Fluorescents: *Osram*



Pendants designed by Larissa Sand were inspired by scientific beakers (above and top). Neon is reflected in the facade's steel-framed armature of clear and tinted glass panels (inset left).

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CIRCLE 62 ON INQUIRY CARD

An entry framework of bronze fittings greets loft residents

For the Marquee Lofts, an upscale condominium complex housed on the upper floors of a former Cadillac showroom building built in San Francisco in 1921, David Baker & Associates Architects commissioned South Park Fabricators to design and build a residents' entry facade, awning, and lobby that would simultaneously reflect the building's industrial past and upscale present.

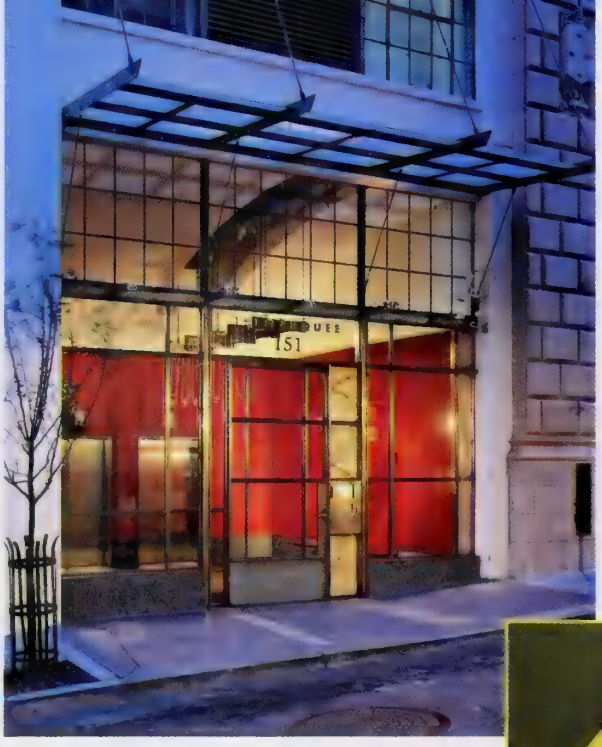
To distinguish the facade, South Park Fabricators decided to experiment with solid aluminum bronze as a framework for glazing. "We selected a bronze that wasn't too expensive and relatively easy to weld," Sand says. The new steel-and-laminated-glass awning is illuminated by stainless-steel-encased marine lights specified by David Baker & Associates.

Bronze is repeated as a signature element in the lobby. The chandelier designed by Sand incorporates a plate of onyx resting on an egg-crate-like grid of bronze. Ceiling-recessed, narrow-focus spotlights graze the onyx from above. A downlight component features MR16 fixtures hung from the chandelier grid by cables.

Sconces also feature onyx panels held in bronze fittings, which shield clear 40-watt incandescent bulbs. "The idea was to use refined materials joined by mechanical fasteners, albeit bronze fasteners," says Sand. "This was our way of relating to the historic building while addressing contemporary opulence."

Project: *The Marquee Lofts, San Francisco*
Architect: *David Baker & Associates Architects*
Lighting designer: *South Park Fabricators*
Interior finish, millwork designer: *Pacassa Studios*

Sources
Awning lights: *Bega*
Spotlights: *Halo*



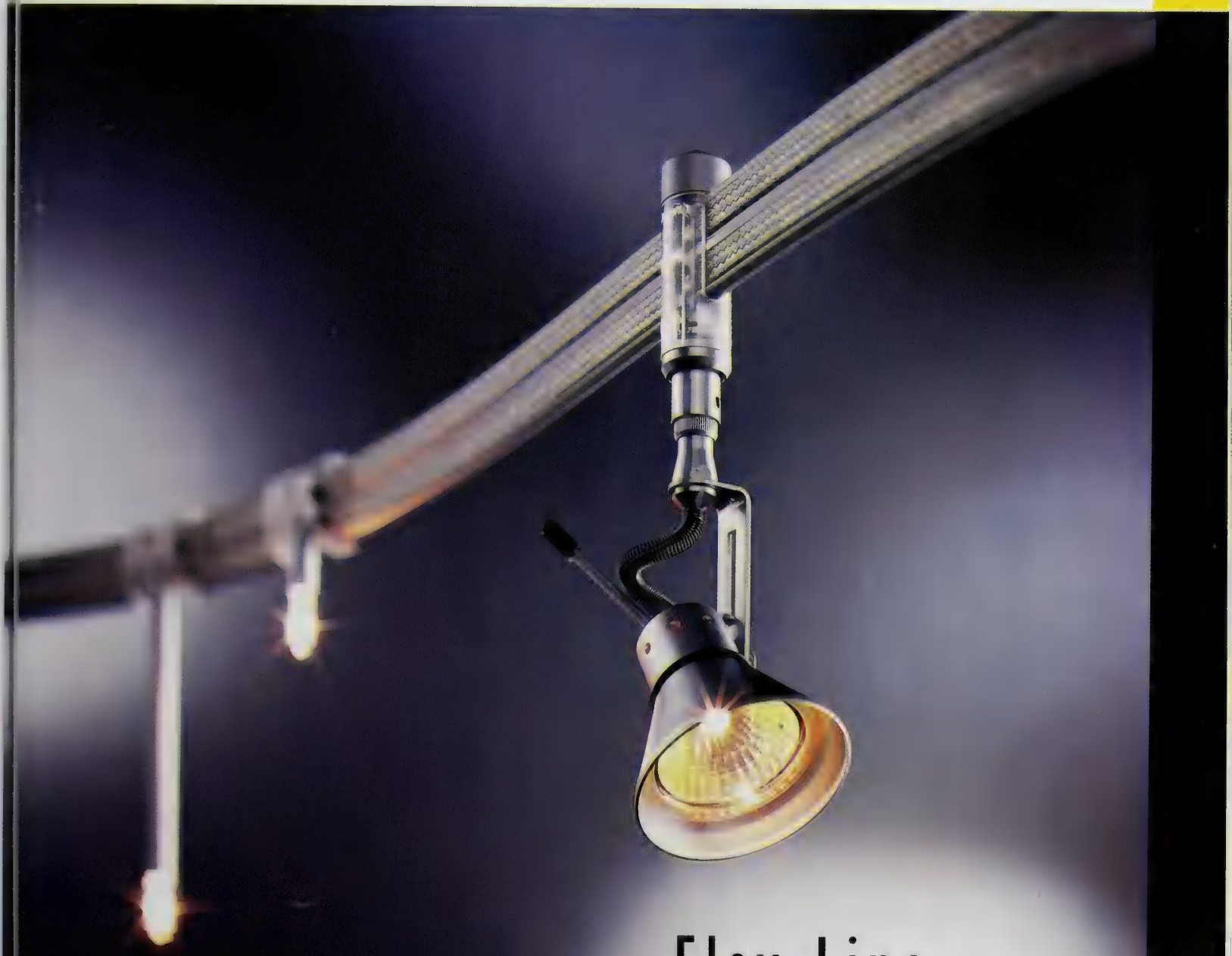




The new entrance of the Marquee Lofts features an aluminum-bronze and glass facade and steel-encased marine lights (left). The onyx panel of a chandelier (inset) serves as a diffusing lens for ceiling-recessed, narrow-focus spots. An incandescent sconce provides ambient light (bottom).

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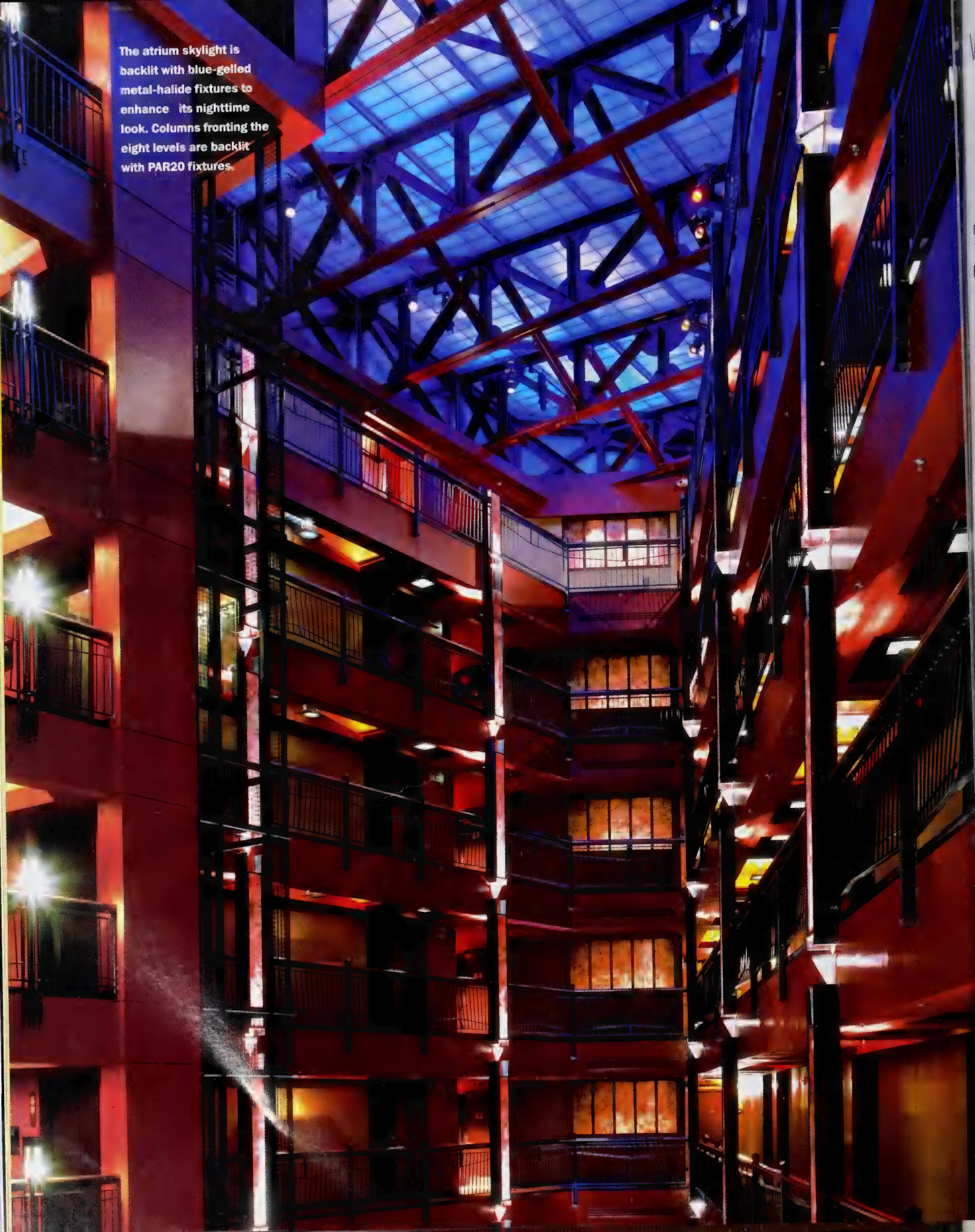
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The atrium skylight is backlit with blue-gelled metal-halide fixtures to enhance its nighttime look. Columns fronting the eight levels are backlit with PAR20 fixtures.

Varied lamp sources create layers of light to enhance the public spaces of a new hotel

By William Weathersby, Jr.

The public spaces of a hotel anchored by a towering atrium might not suggest areas designed at an intimate scale. At the Tribeca Grand Hotel in New York City, however, Bogdanow Partners Architects has shaped inviting lobby venues that thread through a central eight-story volume without overpowering patrons with a monumental sense of verticality. The 10,000-square-foot lobby was designed to serve multiple functions—lounge, waiting room, bar, restaurant, and meeting place—with guest rooms stacked around the perimeter of the triangular building. Guests are cued to the various uses of the lobby by the furniture arrangement, changes in scale and floor surfacing, and especially by lighting. Focus Lighting's layered illumination plan defines different activity zones by varying light levels and colors while accentuating details and tactile surfaces.

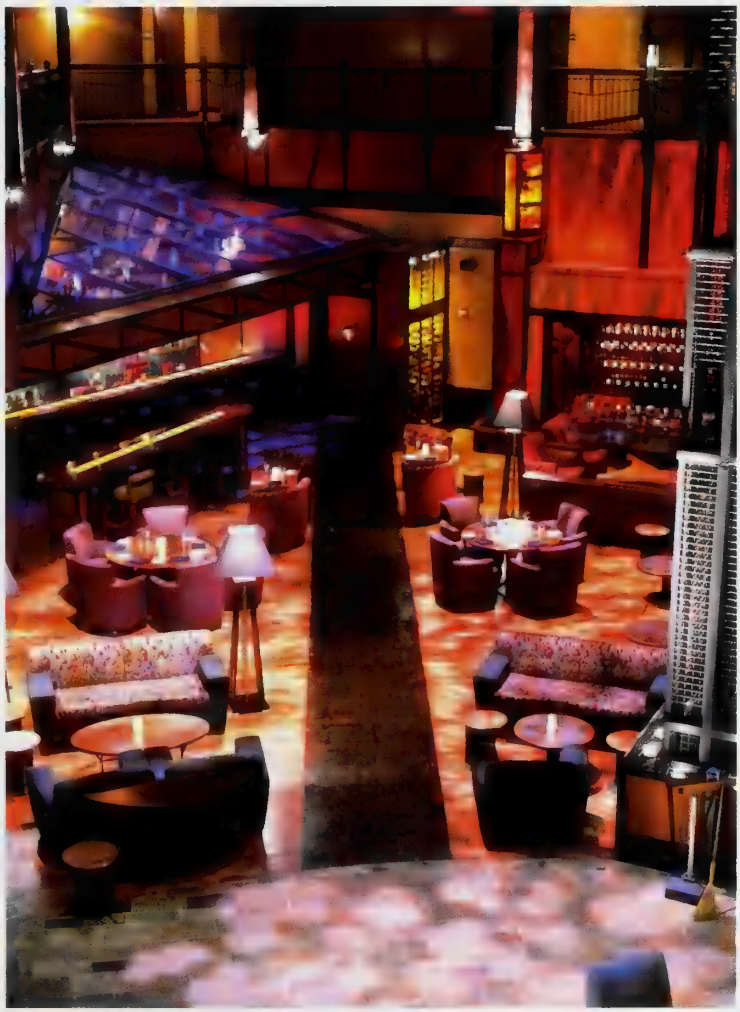
After the success of their first New York hotel venture, the Soho Grand Hotel, entrepreneurs Leonard and Emanuel Stern of Hartz Mountain Industries decided to build a second property only four blocks away. The Tribeca Grand pays homage to the early-20th-century brick warehouses and factories of the district with cage-enclosed elevators, ironwork details, and wood flooring. "The atrium also recalls the interiors of classic historic buildings like the Brown Palace Hotel in Denver and the Bradbury Building in Los Angeles," says principal architect Larry Bogdanow, AIA. "Designing the lobby required a balance between acknowledging the towering volume and creating spaces where guests would want to linger. Lighting helps to frame vistas and set up vignettes throughout the vast space."

"Our chief assignment was calling out all the warm details that envelop the space," says principal lighting designer Paul Gregory. "As you look up or across the room, there are sparkles and highlights and pockets of colored light that direct your eye."

Entering the hotel, guests are greeted by a lighted screen in the registration area. "The screen creates suspense by blocking the first glance into the hotel and momentarily concealing the central atrium space," says Gregory. A water feature planned for the entry was eliminated during design development due to cost considerations, so light instead creates a waterlike effect. The semicircular screen is composed of 10 panels, each measuring 2½ feet wide. Each panel is frontlit by a custom wave projector

Based in Westport, Conn., RECORD contributing editor William Weathersby, Jr., frequently writes about lighting and architecture.

Project: *Tribeca Grand Hotel, New York City*
Owner: *Hartz Mountain Industries*
Architect: *Bogdanow Partners Architects—Larry Bogdanow, AIA, principal-in-charge; Tom Schweitzer, project manager; Brian Slocum, Randi Halpern, Kelly Crowder Taylor, project team*
Lighting designer: *Focus Lighting—Paul Gregory, principal lighting designer; Brett Anderson, project designer; Sepp Spenlinhauer, assistant designer*



The atrium lobby of the Tribeca Grand Hotel (above) is a crossroads that serves multiple public functions. Track lighting above the bar enhances a trussed glass canopy. Theatrical fixtures cast patterns along the circulation pathways.

PHOTOGRAPHY © MICHAEL KRONENBERG

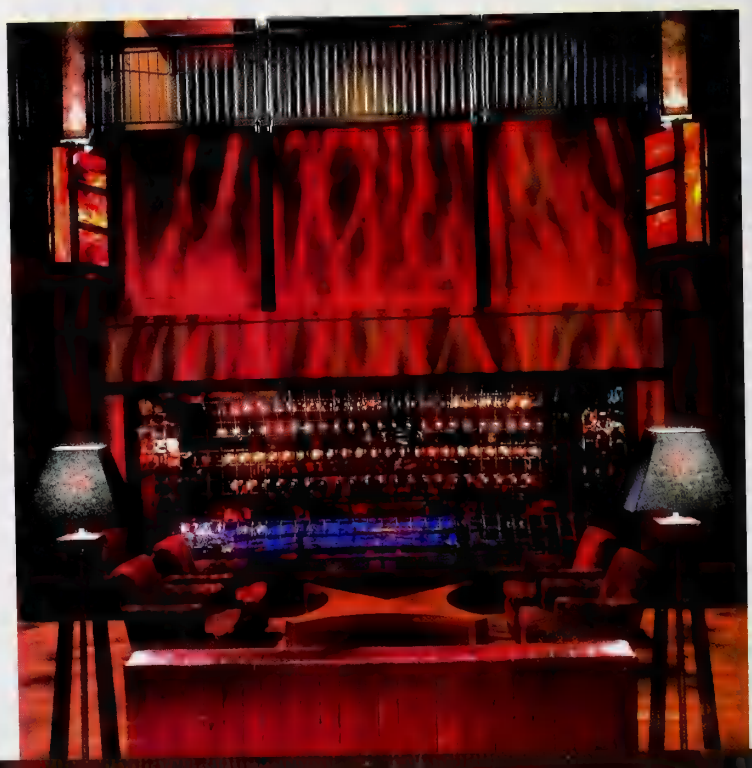
with white light, which is filtered through textured glass discs that slowly rotate. MR16 fixtures fitted with blue dichroic lenses accent the front of the screen, while 40 50-watt PAR20 medium-flood lamps provide a blue color wash on the back of the screen.

A curved ramp sweeping into the atrium meets ADA guidelines while providing a processional route for arriving guests. Sections of art glass embedded in the floor along the pathway are lit with LEDs. The LED "brick lights" are housed in custom fixtures, shielded by art-glass covers grouted in place over the fixtures.

For a base layer of light that subtly delineates the atrium structure, columns edging the balconies on each of the eight floors are accented with illumination. A panel of acrylic fabric and resin mounted on the interior face of each column is backlit with a PAR20 lamp housed in a custom steel-mesh casing. When viewed from the ground-floor lobby, the columns take on the look of continuous beams of light.

Aware that the stacked guest-room corridors would be visible from the atrium, Gregory and colleagues Brett Anderson and Sepp Spenlinhauer were concerned that dimly lit hallways would make "the edges of the atrium drop off into darkness," Gregory says. Instead, the design team addressed the corridor ceilings as an opportunity to create a visual frame for the perimeter of the lobby. Coffers in the hallway ceilings contain concave perforated acoustic panels. In the center of each panel, an MR16 accent spot illuminates an acrylic panel suspended below the arch to provide sufficient ambient light without exposing a light source. Each coffer is lit with linear fluorescents wrapped in color sleeves: Deep amber on the ground floor progresses in small color steps to a light amber on the eighth floor. "The color gradations direct the eye and add a layer of

A stylized fireplace features paraffin-burning lamps set behind glass lenses (below). Lintels and wood panels above the fireplace are grazed by ellipsoidal reflectors. Neon inset in the bartop uplights patrons (above). Floor lamps and MR16s are ambient sources.



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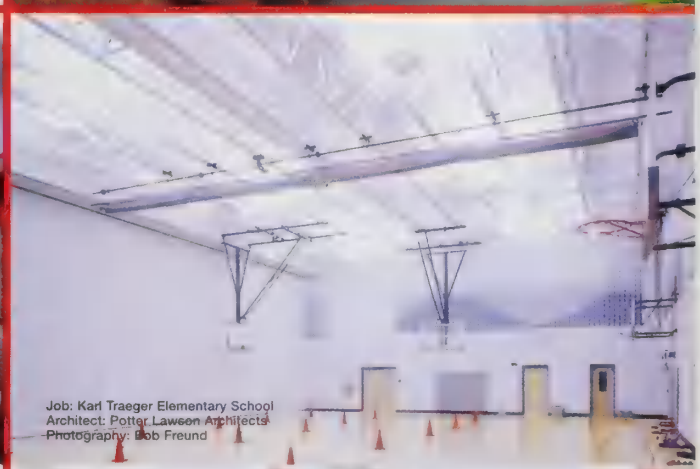
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CIRCLE 65 ON INQUIRY CARD

The chandelier and six sconces in the private dining room are wired to 15 24-volt flicker modules to simulate candlelight (right). Throughout the lobby, custom newel-post lanterns employ ships' prisms to reflect light from A-lamps (below).





unexpected visual interest," Gregory says. At the top of the atrium, a frosted-glass skylight is lit from above by 20 roof-mounted 1000-watt metal-halide fixtures fitted with deep blue gels.

The owners and architects issued a mandate to keep the columns and railings bordering the atrium free of lighting fixtures focused down on the lobby, Gregory says. To provide general lighting at the atrium floor level, theatrical fixtures were mounted to the skylight trusses. Because fixture

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clutter was a consideration, custom I-beam clamps were fabricated to support the fixtures, each clamp featuring a one-foot-long arm that can be rotated to move the fixture around truss crossmembers. "This placed the fixtures in good positions for throwing light eight floors below and ensured that they could be easily maintained from the upper-level walkway," Gregory says. The ellipsoidal reflectors are fitted with pattern projectors to cast plays of shadow and light upon pathway pivot points. Additional fixtures graze wood millwork throughout the lobby.

To anchor the north wall of the lobby, Bogdanow envisioned a hearth that might evoke the look of a lodge hotel from earlier in the century. Because an open fireplace or the use of gas jets was against fire code in such a public atmosphere, he collaborated with Gregory to design a stylized version that employs paraffin lamps. Measuring 22 feet long and 16 feet high, the "fireplace" contains 66 lamps fueled by a liquid paraffin pump behind dichroic glass lenses. A backdrop of metallic-finish tiles catches the flickering light.

Glass-enclosed elevators in the atrium sparkle from within. For an inventive chandelier, Gregory used ships' prisms—solid green-glass pyramids of a kind once used to light lower decks of ships before electricity. Light directed into the prism is reflected at a 90-degree angle. Five groups of six prisms cover the ceiling of each elevator cab, with the center prism in each group pointing downward. A single A-lamp source above each grouping creates a field of sparkles. Ships' prisms, with A-lamp uplighting, also serve as jewel caps in newel posts throughout the lobby.

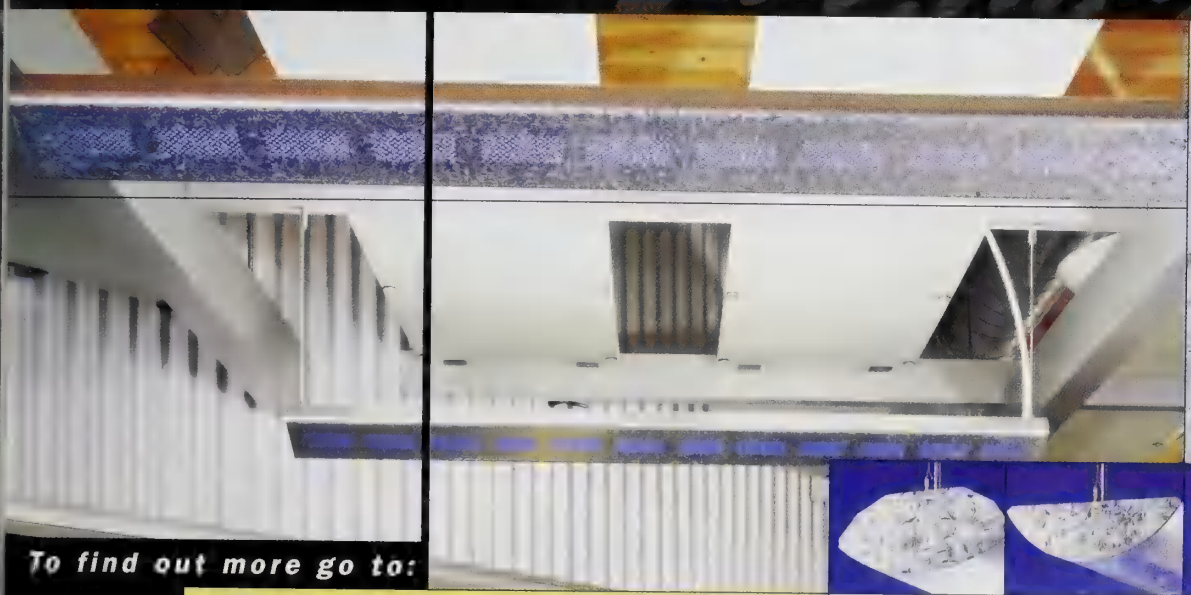
A triangular bar area adjacent to the atrium sits beneath a truss-and-glass canopy, which is illuminated by MR16 track lighting. A run of neon is inset into the bartop to uplight patrons. And adding definition to the streetside windows, AR70 fixtures graze metallic-fiber draperies. ■

Sources

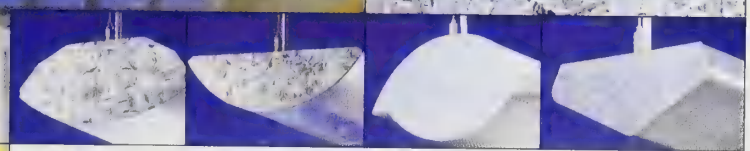
Recessed downlights: *Edison Price, Nulux, Atlantic*
Accent lighting: *RSA, Lumiere, BK Lighting*
Track lighting: *Juno*
Linear light strips: *Litelab, Belfer, Lucifer*
Fluorescents: *A&L Lighting, PMC Fluorescent*
Theatrical fixtures: *Electronic Theatre Controls*
Decorative fixtures: *Egoluce, Flos, Terzani, Originals 22, D'Lights, House of Troy, George Kovacs, Limburg*
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Soothing the pain of soaring power prices

DEREGULATION OF ELECTRIC UTILITIES HAS CAUSED POWER PRICES TO GO HAYWIRE. CURTAILABLE RATES MAY HELP YOUR CLIENTS TURN THIS SOURCE OF PANIC INTO ONE OF PROFIT.

By Lindsay Audin

The booming economy, which has become more and more based on electronics, has pushed electric load levels to unprecedented heights. Coupled with the fact that fewer new power plants are coming on-line, the boom has challenged the electrical generation and transmission systems to match power supply with customer demand, lest the U.S. plunge into darkness. When the margin between supply and demand becomes tight and, as has been case recently, when there is effectively no competition between wholesale electric power suppliers, they can essentially charge whatever price the market will bear.



A typical electric bill is actually the sum of many separate charges, including the cost to generate, transmit, locally distribute, and meter that power. When utilities are "deregulated," they sell their generating plants to unregulated companies called independent service operators (ISOs), which in turn compete with one another for consumers' business. Deregulation was supposed to spur competition between ISOs, driving down the price of electricity. In most states, the cost of the generation portion of the bill represents about 30 to 50 percent of the total, with the rest covering the cost to transmit, distribute, and meter the power—aspects of the bill that remain regulated—with the utility company still acting as the delivery agent for the power.

Deregulation has worked well in states where there is enough spare generation to ensure competition, even when some plants are out of service, weather is severe, or a power line goes down. But when power supply fails to keep up with demand, as has been occurring in California recently, there is effectively no competition: All local power plants must be in operation, and often power must be imported from out of state. At such times, prices charged by those new power-plant owners are unconstrained, which means the cost of electricity can go through the roof.

In California, things began to unravel last summer. High temperatures occurred across the whole West, highlighting a fact not unknown to smart power marketers, that California needed to import nearly 25 percent of its power from other states. Very high prices for natural gas, which fuels many power plants, exacerbated the situation—Platt's recently reported that natural-gas prices effectively increased fourfold since January 2000. The resulting wholesale prices for power were then either passed on to consumers, as occurred in the San Diego area, or were temporarily absorbed by local utilities, as occurred in areas served by Pacific Gas & Electric and Southern California Edison. Only consumers in areas served by municipal utilities that generate their own power, such as Los Angeles and Sacramento, escaped skyrocketing electric power prices.

Lindsay Audin is the president of Energywiz, an energy and technology consulting firm (www.energywiz.com).

Curtailable rates to the rescue

As a result of this fiasco, new forms of cooperation between suppliers and customers have been created. One, curtailment, has taken the form of direct payments to customers who cut back power use upon request. While the lexicon of "interruption" versus "curtailment" has yet to be precisely nailed down, a curtailable electric rate reimburses a customer who chooses to reduce a portion of the load when asked; an interruptible rate is lower at all times but mandates heavy penalties for those who fail to cut back when called upon to do so. The less onerous curtailable option is now spawning a variety of new electric rates, user management software, and demand-side management services.

Those curtailable rates typically pay customers at least $.30 to $.40 (and sometimes over $1.00) for each kilowatt-hour (kWh) they do not use during a curtailment period, when the utility companies are approaching peak-load conditions. Since a failure to curtail does not result in any penalty, such new rates offer a low-risk opportunity for customers to get money back by managing their demand on an as-needed basis.

One way to reduce load is through the selective shutdown or dimming of lighting. While most lighting loads are too critical to be interrupted, some may be dimmed, briefly shut off, or switched over to existing backup generators. Here are a few examples: Decorative or window-display lighting, signage, and open multilevel parking structures can be shut down during daylight hours. Lobbies, hallways, and atria, especially those that receive daylight, are good candidates for shutdown, or at least load reduction. Some office, warehouse, and ambient (not task) lighting may be dimmed somewhat without impacting productivity or safety.

A quick calculation reveals the value of such systems. Let's say your present on-peak cost for power (including peak demand charges) is $.15/kWh. Reducing load by 100 kW would save $15 per hour. If employed 10 times a year to reduce peak demand for 8 hours at a time, a load-reduction system would save about $1,200 a year (or about $12/kW). Operating under a typical curtailable rate, however, that same system could cut annual electric bills by $4,400 or more (or about $44/kW).

While insufficient to quickly recoup the cost of replacing constant-wattage electronic ballasts with dimmable units, the refunds may be enough to justify several energy-saving options. Control and ballast

options include: area-wide dimming systems for HID lighting; the choice of dimmable fluorescent ballasts, instead of standard electronic ballasts, for an already-planned upgrade; installation of powerline carrier (PLC) controls on nonessential lighting circuits, such as window-display lighting for stores; installation of step-dimming ballasts in hallways and stairwells, with occupancy sensor override for areas with security problems. One simple solution is to circuit 30 to 50 percent of fixtures in hallways for selective shutoff. Switchgear, which runs safety lighting during the brief interruption that occurs when the generators are being started up, should also be added.

How can a client participate?

Most curtailable load programs feature the following requirements:

- *A minimum defined-load reduction*—a commitment by the customer to reduce by a minimum amount, usually at least 100 kilowatts.
- *Time restrictions*—the client must be able to reduce loads between 9 A.M. and 10 P.M. on any day of the week.
- *Rapid response time*—curtailment must occur within several hours of receiving a call to do so.
- *Access to communications*—someone must be able to receive and act upon the type of signal sent by the utility or ISO and activate the metering system that measures, records, and reports loads before and after curtailment. This notification may be sent by a beeper, radio, or E-mail.

Examples of such programs may be found at the Web sites of several utilities. See Alliant Energy at www.alliantenergy.com, Consolidated Edison at www.coned.com under tariff Rider U. To see details on an ISO's program, log onto at www.pjm.com.

There are more than a few "devils in the details" of load curtailment, and some thought is needed to deal with them. In at least one case, a utility thought it could ask customers to switch loads on and off in 10-minute intervals. This is obviously unacceptable for lighting systems.

Seventeen curtailments were called for in California during the summer of 2000. If a system is fully automated, so many calls would not be a problem, but asking a facility manager to scramble and personally activate the curtailment system is often asking for trouble: If curtailments are not fully automated, facility managers need to be ready and able to receive curtailment calls. Your clients will need to know whether there is sufficient staff to execute the curtailment and whether their communications equipment is reliable enough to keep this option from becoming a burden. Several controls firms and software vendors are now assisting utilities and customers to automate the handling of curtailments. For further details, see the September 2000 Tip of the Month at www.energybuyer.org.

And what happens after one installs the new controls, meters, and software necessary to manage a curtailment but, due to cool weather or increased capacity, there are not sufficient curtailments to pay for these improvements? It seems unlikely to happen in the immediate future, but it is proper to warn your client that this is within the realm of possibilities.

"Pay me to cut back" programs already exist in California, Wisconsin, Iowa, Minnesota, Illinois, New York, and Oregon. Both the PJM ISO and the New England ISO have initiated programs for curtailments at the wholesale level, which will filter down to customers at the option of their local utilities. This practice is likely to spread wherever the margin between supply and demand is tight or narrowing. To find out if a curtailable rate option is available in your area, call your local utility. While others may continue to see price volatility only as a source of problems, here is a chance to make it a source of profit. ■



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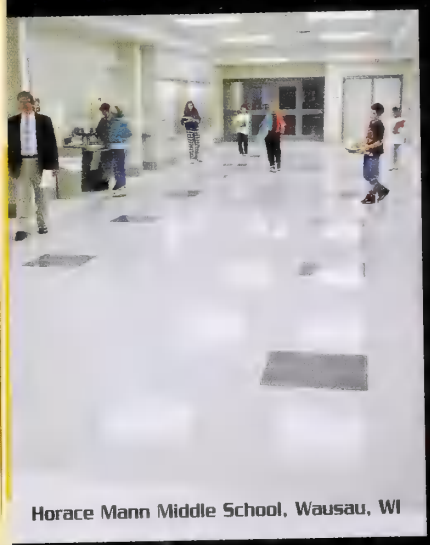
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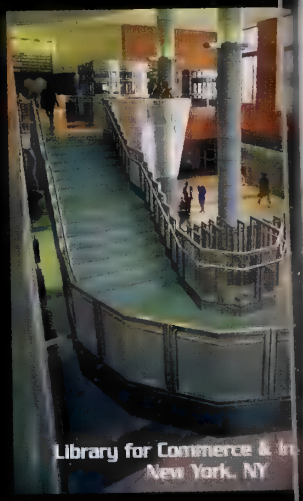
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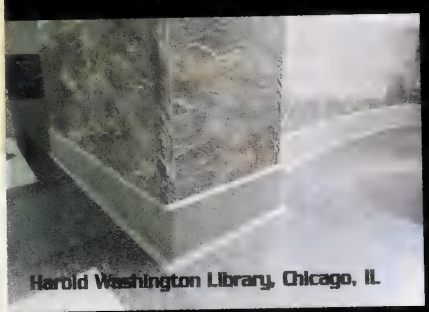
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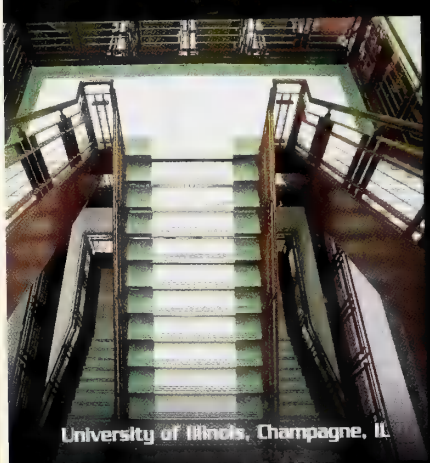


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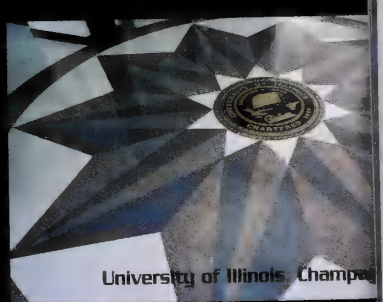
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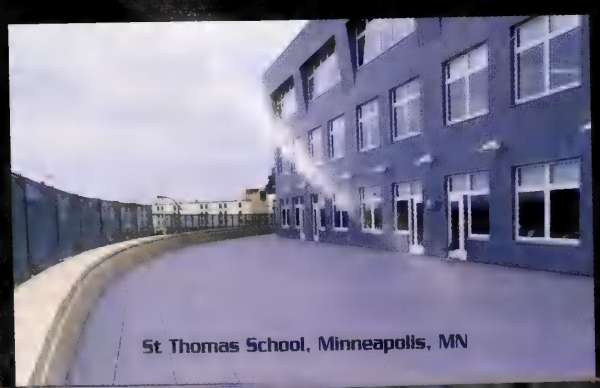


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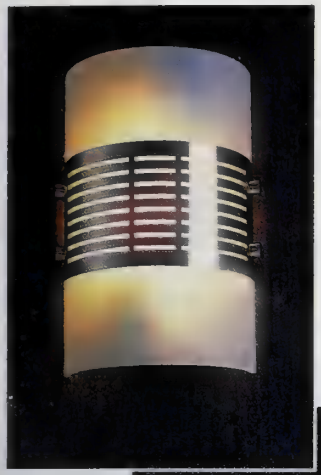
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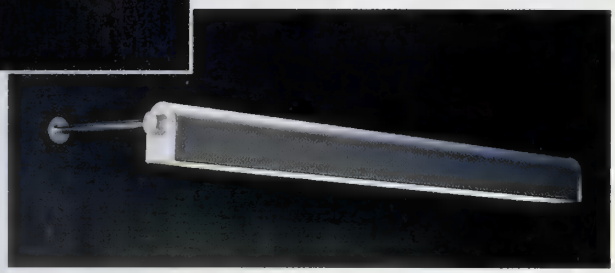
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Lighting Briefs



◄ New kid on the lighting block

Tsao Designs is one of the first four subsidiaries of Varon Lighting, a new lighting fixtures manufacturer based in Wauconda, Ill. Tsao Designs, offerings include the G-7 collection of half-cylindrical wall sconces with molded sand-etched glass (left) and the Taskmaster Series 310 linear hard-wired task and accent lighting fixtures (below). 203/966-9559. Tsao Designs, New Canaan, Conn. **CIRCLE 200**





▼ Putman floor and table

The Compas dans l'Oeil table and floor lamps are French designer Andrée Putman's third collaboration with Baldinger. The lamps provide soft reading and ambient light through a lined, perforated-metal shade. A compass-inspired knob allows the direction of the light to be adjusted, and the base contains a compartment to hold a pen or paper. The stem and base are finished in satin nickel; the adjustment comes in a satin brass or satin nickel finish. 718/204-5700. Baldinger Architectural Lighting, Astoria, N.Y. **CIRCLE 201**

► Landscape luminaire

Ceillo pole- and surface-mounted low-voltage accent luminaires provide evenly distributed, low-glare accent illumination for outdoor building entryways, perimeters, gardens, and pathways—or they can accentuate architectural and landscape features. The cylindrical housing has a narrow base and a broad lamp head. 714/668-3660. Architectural Landscape Lighting, Santa Ana, Calif. **CIRCLE 203**



► For the vertically challenged

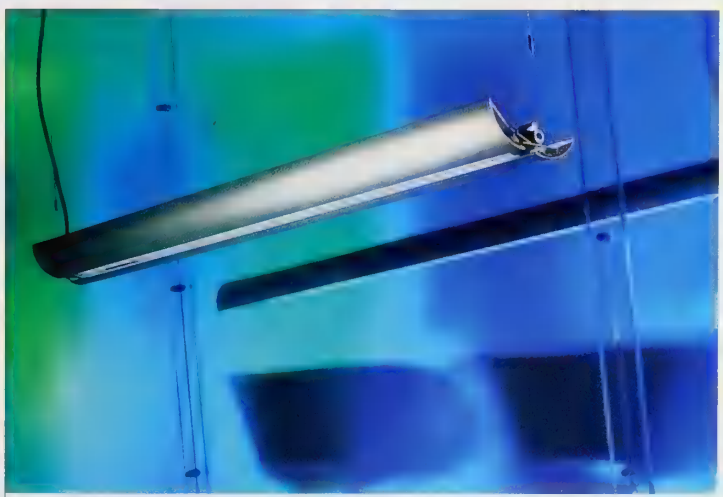
The Vertical Surface Illuminator (VSI) is a new method of illuminating large wall surfaces from that same surface. VSI delivers a narrow 180-degree band of light from a precise, patented optical system. More than 95 percent of the candlepower distribution is within 15 degrees of the surface being illuminated, resulting in low glare and minimal light pollution. The same size luminaire can be equipped with either a 70-watt or 150-watt ceramic metal-halide T6 lamp. 805/684-0533. Bega/US, Carpinteria, Calif. **CIRCLE 202**





◄ Just hanging around

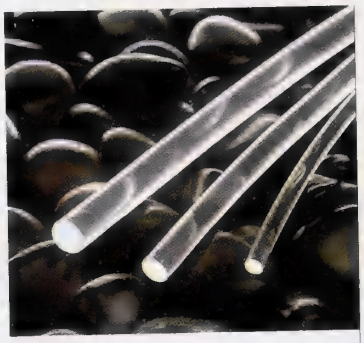
Häfele America Company's low-voltage halogen lighting system features lights that attach to rails or cables, allowing for the easy adjustment to highlight the area in need of illumination. A variety of lights and accessories in the system can be configured in various angles and curves for both residential and commercial applications. 336/889-2322. Häfele America Co., Archdale, N.C. **CIRCLE 204**



▲ Up, down, any which way

Updown is a light system using an energy-saving fluorescent T26 tube with a 58-watt, 36-watt, or 18-watt bulb. Updown consists of a lamp element with optional reflectors and diffusers. The light can be directed as required. Available as a steel-cable suspended lamp with an aluminum tube or as a ceiling and wall lamp, it is suitable for an individual monitor workstation, retail environments, or residential settings. The ends of the two diffuser options can be covered with color clips to achieve color effects. 41/56/618/7373. Belux AG, Wohlen, Switzerland. **CIRCLE 205**

Lighting Briefs



▲ Magic wand

Compared with standard-core plastic fibers, Venture Imagine MagiCore solid-core plastic fibers give up to 30 percent more space through which light can travel and a 33 percent higher angle of acceptance. As a result, 76 percent more light will pass though solid-core plastic fiber than standard core. The light cables are available with diameters of 5, 8, 9, or 16 millimeters. 800/451-2605. Venture Lighting, Solon, Ohio. **CIRCLE 206**

▼ Small packages

A new line of high-efficiency, thin-profile electronic ballasts are designed for one- and two-lamp operation with models available for T5 and T5/HO lamps ranging from 14 to 54 watts. The lamps feature a small cross-sectional area and low one-inch profile height for flexible fixture design. T5 and T5/HO applications include indirect, pendant mount, wall mount, surface mount, cove, undercabinet, and task lighting. 615/316-5146. MagneTek, Nashville. **CIRCLE 207**





▲ Light with Lycra

The Spectrum lighting fixture was designed by Axis Lighting and Fahrendorff Design as a part of SMED International's new Switch line of furniture. The Spectrum features curvy polycarbonate supports and details and an organic-formed Lycra fabric reflector that delivers ergonomically correct, glare-free lighting. The stretch reflectors allow for indirect illumination of spaces with unfinished or dark ceilings or for an accent on an interesting architectural detail. 800/263-AXIS. Axis Lighting, Montreal. **CIRCLE 208**

► Recessed and track combo

The Slot offers a combination of recessed and track lighting that provides multiple-aiming accent lighting. The recessed housing easily drops into suspended two-by-four-foot T-bar grid ceilings, or it may be used in most other types of ceiling construction. The easy-to-install enclosure offers a clean, flush appearance that reduces clutter. 847/559-5500. Con-Tech Ltd., Northbrook, Ill. **CIRCLE 209**



For more information, circle item numbers on Reader Service Card or go to www.architecturalrecord.com Advertiser & Product Info



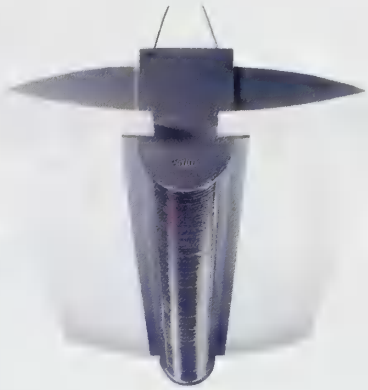
Lighting Briefs

► Venetian-inspired chandelier



Fortuny lighting was produced by Venetian craftsmen working with renowned designer Mariano Fortuny, who perfected the technique of stretching delicate silk over forged brass frames. Once the shape of the chandelier is established, each piece is then hand-painted with traditional Italian and Ottoman designs and finished with beaded ornaments, Murano glass drops, or fine silk tassels. The Semplice Scudo Saraceno chandelier, a contemporary addition to the collection, is crafted in the same style but painted in a simple, spare spiral. The new chandelier, as well as other Fortuny lighting, is available in the United States through the Stephanie Odegard Company. Each piece is one-of-a-kind and takes approximately 10 weeks to complete. 212/545-0069. The Stephanie Odegard Company, New York City. **CIRCLE 210**

► Winged pendants



The Aura series of direct/indirect luminaires uses a new technology of glowing translucent wings made of a scratch-resistant, multilayered acrylic material that achieves an even glow throughout the form. Both the Aurea (shown) and Aureaus luminaires are pendant-mounted using T5 technology. 800/SELUX-CS. Selux Corp., Highland, N.Y. **CIRCLE 211**



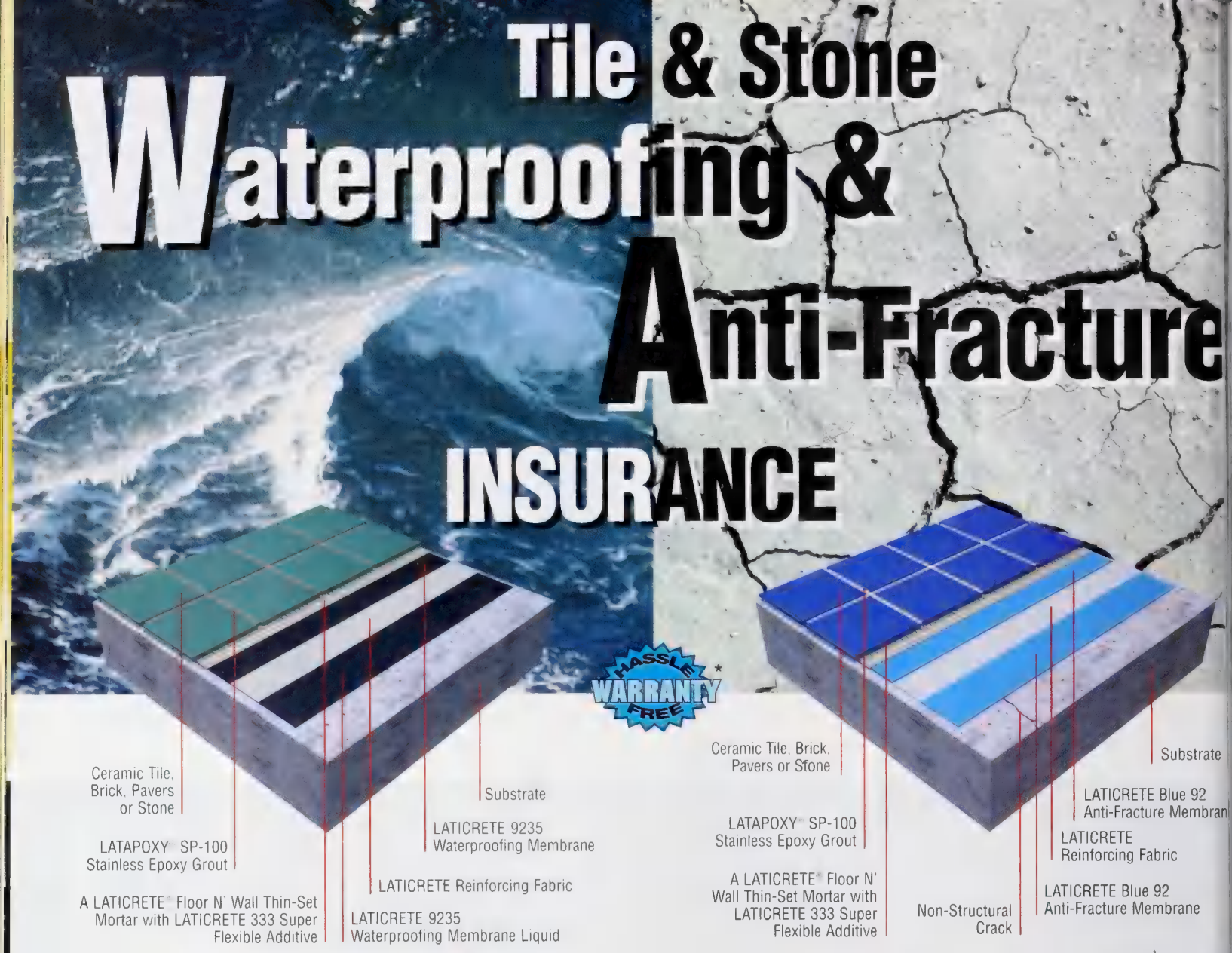
◄ Slumped and seeded glass

The 801 pendant's two MR16 lamps set in the center metal panel provide bright, directed downlighting, and the 60-watt incandescent and 13-watt fluorescent lamping options on either end allow for specific-use options. The fused, seeded, and slumped decorative glass completely diffuses the light and evenly illuminates. Standard metal choices include satin silver and satin bronze. A wall sconce and table lamp are also currently available. 800/978-8828. Neidhardt, Redwood City, Calif. **CIRCLE 212**

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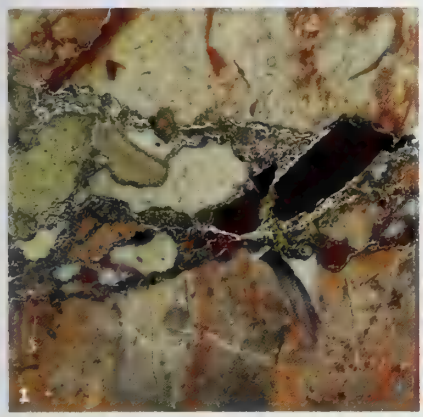
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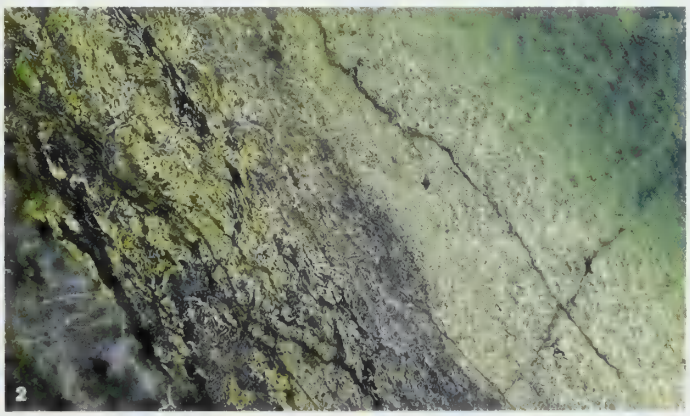
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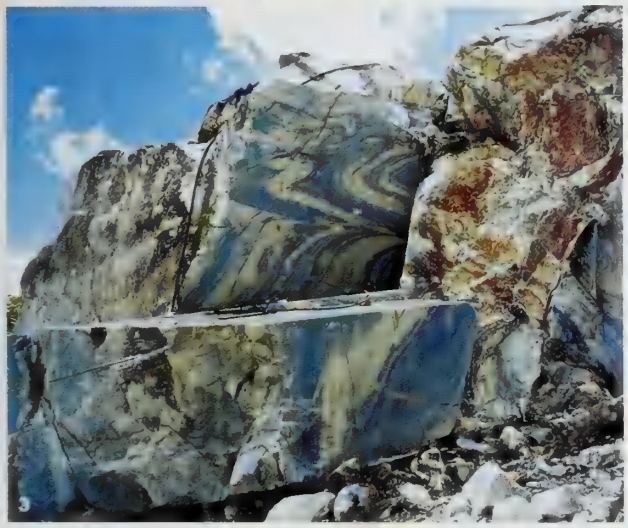
New Products

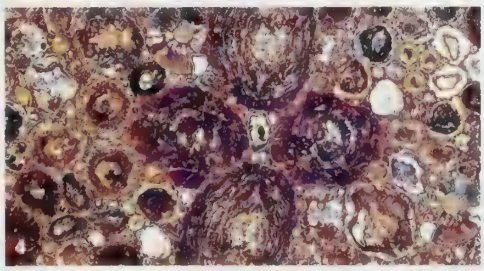
It might be misleading to put tile and stone in a new products section. After all, stone, as well as the minerals and clays used to make tile, precedes man, let alone man-made structures. But new fabrication techniques and lessons learned through trial and error keep the topic as new as any. Here are offerings from around the world. Rita F. Catinella

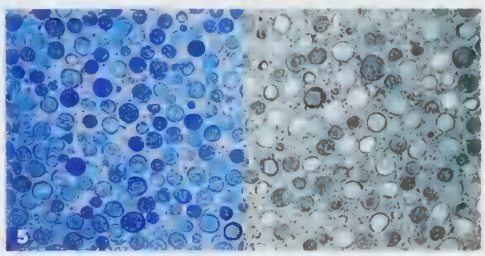
In October, RECORD attended both Cersaie, the largest exhibition of ceramic tile and bathroom furnishings, held in Bologna, and Marmomacc, the international exhibition of marble, stone, and technology, held in Verona. Standouts among the usual offerings were 3-D cladding tiles that created shadows, elaborate glass tiles, and technologically improved "self-cleaning" tiles. The stone show's high points included stunning marbles from around the world, terrazzos using unusual materials, and selections of reclaimed Jerusalem stone.











The world as your palette: Colorful stone from Ireland to Israel

1. Marbre du Boulonnais comes from the Boulogne region of France. Special features of the marble include shells and crystalline veins. 510/782-3000. Stone Selection, Hayward, Calif. CIRCLE 213

2. Irish Connemarble Green offers elements of translucent apple green color in a wild variegation of dark and pale shades of green. 39/045-6836611. Antolini Luigi & C. Spa, Sega di Cavaion, Italy CIRCLE 214

3. Sky Blue Marble from Argentina is a rock of medium hardness that strikingly mimics a blue sky with ribbons of clouds. 54/351-4941851. Campa Srl, Córdoba, Argentina. CIRCLE 215

4. Modern techniques are used to fabricate slabs of precious minerals combined with rare petrified wood and fossils, dating back over 240 million years. 972/9954489. Petrified GemWorks Ltd., Herzelia, Israel. CIRCLE 216

5. Ipar's unusual heavy-duty terrazzo flooring features water-jet-cut circles in pastel colors. The flooring is made of cement, globular granulates, and siliceous and quartz-based hard aggregates. 39/035-940246. La San Giorgio, Bergamo, Italy. CIRCLE 217

Mistakes to avoid if specifying stone

The biggest mistake architects make in specifying stone is not reviewing enough samples to understand the range of veining, color, and texture. Another problem is specifying a material for an inappropriate application. For a few applications (curtain walls, for example), there are specific guidelines that have been developed; however, for many types of installations, there are no yes-or-no guidelines. A way to begin the process is to ask the following questions: What are the characteristics of the stone? Has it been tested? (If it hasn't, the architect needs to employ a laboratory to determine whether the stone can handle the loads occurring where it will be used, and to help determine the appropriate substrata and method of mounting.) Where has it been used before? What is its chemical composition? In what size is it available? In what country is it quarried and fabricated? How efficient is the transportation system in that country? Is the quarry open year-round?

Thanks to Robin-Holt Henry, AIA, of Associated Imports in Seattle for her suggestions.

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TILE GLOSSARY:

Abrasion resistance
The degree to which a floor tile's surface will withstand the wear of foot traffic.

Aggregate
A mixture of diverse minerals or other loose materials in a cementing agent.

Clinker tiles
Natural clay tile, generally extruded, with properties similar to red stoneware.

Crazing
A fine, hairline cracking that sometimes appears on the glazed face of a tile.

Curing
A process allowing new tile installation to set.

Double-fired tiles
Glazed tiles produced by an initial firing of the shaped tile body, followed by a second firing once the glaze or decoration has been applied.

Impervious stoneware
Dust-pressed ceramic tiles with water absorption levels of less than .5 percent. Often specified for exterior installations; also known as fully vitrified stoneware or porcelain stoneware.

Majolica tiles
Tiles composed of raw materials that produce a yellow-pink body with a relatively high water absorption level.

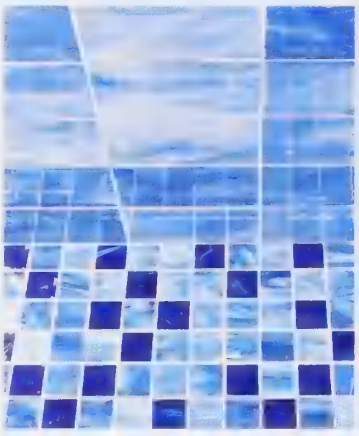
Monocottura tiles
Tiles produced by the single-firing method.

Thin-set installation
Alternative to thick-set installation, thin-set uses a bond coating less than ⅛ inch. Requires a level surface.

Adapted from the Italian Ceramic Tile Dictionary. *To order, call the Italian Trade Commission, Ceramic Tile Dept. at 212/980-1500.*

▼ Liquid glass

Vitrum Liqua glass tiles, part of the Vitrum family from Ceramgres, are available in 11 colors that can be broken down into different combinations to create four looks: Fiume (green), Sea (dark blue) Smoke (light blue/gray), and Earth (yellow/brown). The High Tech line of Vitrum in various textures is also available. 39/063-660422. Ceramgres, Carbonera, Italy. **CIRCLE 218**



▼ Iridescent mosaics

The colors in the Iridium Mosaic Collection include iridescent greens, blues, coppers, purples, pearls, and oranges. Iridium Mosaics (below) were part of the Mosaic Promotions County Century City project in South Africa. In this project, artwork was hand-cut, chip per chip, in the Italian factory and put together on site. 39/054-4451340. Sicis, Ravenna, Italy. **CIRCLE 220**





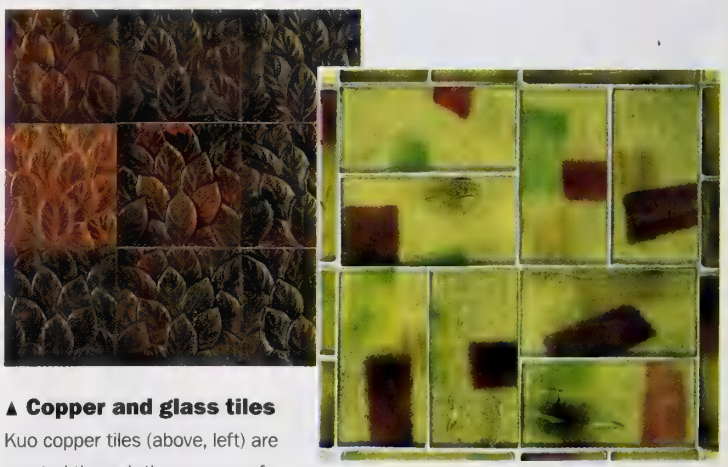
▲ Rainbow brights

The Fire collection from Maestri Majolicari (above) was among the many new series of tile at Cersaie that mixed shades to create rich color fields. Companies such as Appiani, Saicis, Gabbianelli, and Cerdomus displayed mottled bottle blues, greens, and soft yellows alongside bright oranges and reds. In addition, matte blacks and shimmering grays made a comeback and were often enhanced by metallic and glass accents. 212/980-1500. Italian Trade Commission, New York City. **CIRCLE 219**

► Vitrified stoneware

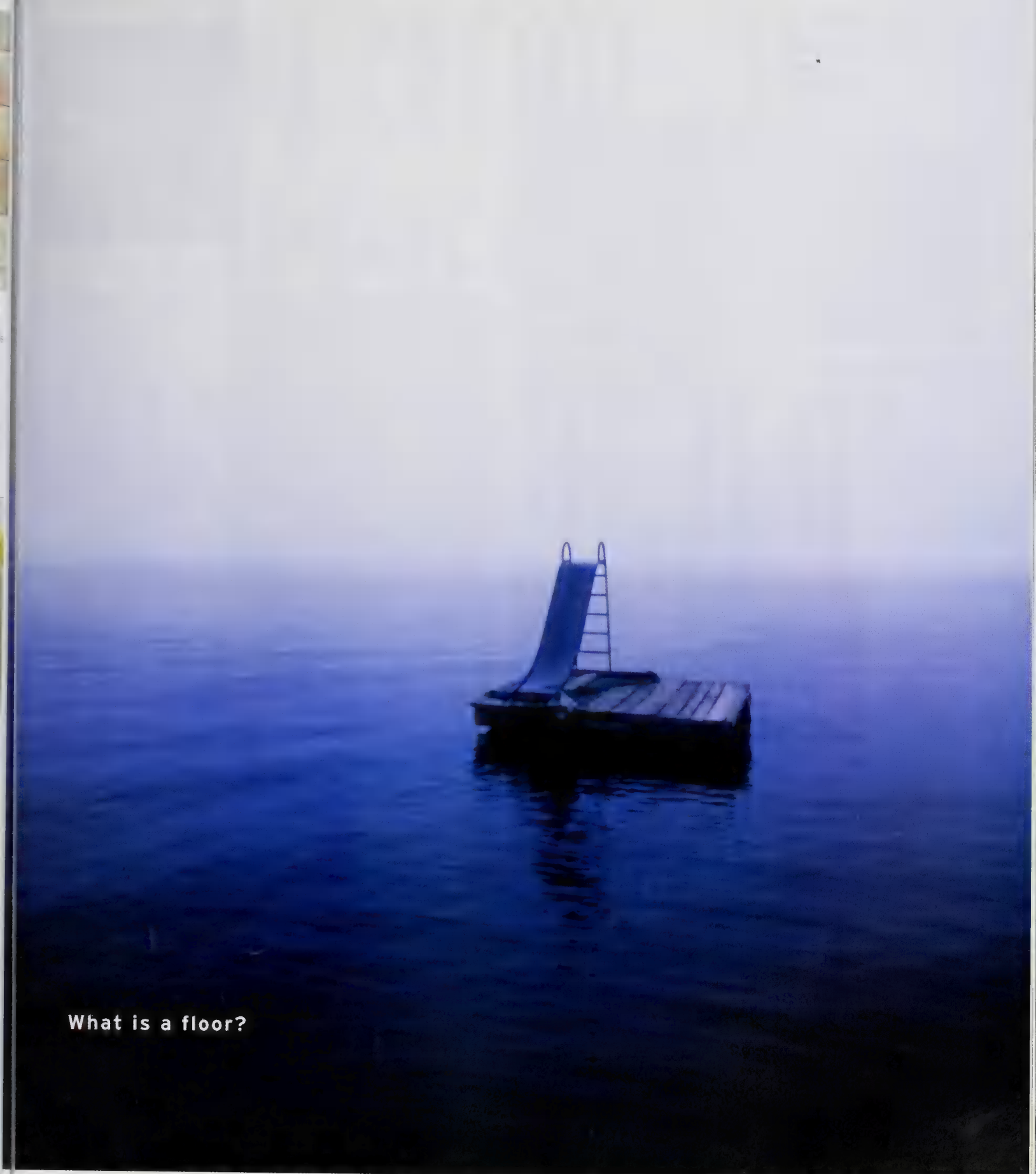
Factory is a white-body vitrified stoneware tile with a choice of two graphic textured surfaces: Roll (shown) and Wire. Factory complies with high standards in frost resistance and hardness, and a special thick silk-screening process ensures abrasion resistance. The tile can be used indoors or out. 39/059-778411. Ceramiche Ascot, Solignano, Italy. **CIRCLE 221**





▲ Copper and glass tiles

Kuo copper tiles (above, left) are created through the process of "hand-chasing" which shapes and forms the metal without fundamentally altering its nature. In chasing, work begins with mallet blows at the center of the sheet of metal, continuing out to the edges, never striking the same spot twice. This hardens the metal, making it less plastic. The metal is then heated and worked until properly formed. Ann Sacks also offers the Illume glass tile collection (above, right). The Crosshatch pattern, for instance, comprises three layers with glass powder "painted" on each and fired. It is then fused together in yet another firing, giving the tile overall texture and depth. 503/281-7751. Ann Sacks, Portland, Ore. **CIRCLE 222**



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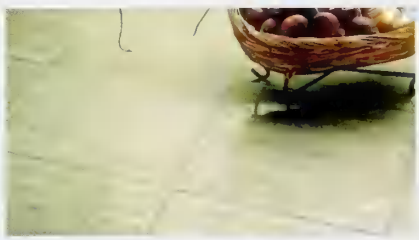
New Products



▲ Foil and smoke now standard

Fumo (right) is a dual tile set (two tiles that repeat in the pattern) that creates an illusion of plumes of smoke on the floor. Created by Adam Tihany for a cigar store, the pattern is now a standard offering. The Foil designs (left) are part of the Vignelli collection for Imagine Tile and will be available in May. 800/680-TILE. Imagine Tile, Bloomfield, N.J. **CIRCLE 223**

► Brazilian flooring



The Roman Travertino series of unglazed porcelain was created in collaboration with Brazilian architect João Armentano. Available in a 16-by-16-foot format, the collection features natural, matte, and polished finishes. The series offers a natural palette and is highly resistant to traffic and climactic changes. The tiles, which are similar in appearance to natural stones, can be used in high-traffic areas such as airport and hotel lobbies, shopping centers, retail stores, and supermarkets, as well as all residential applications. 972/481-7854. Elaine Ceramic Tiles, Dallas. **CIRCLE 225**



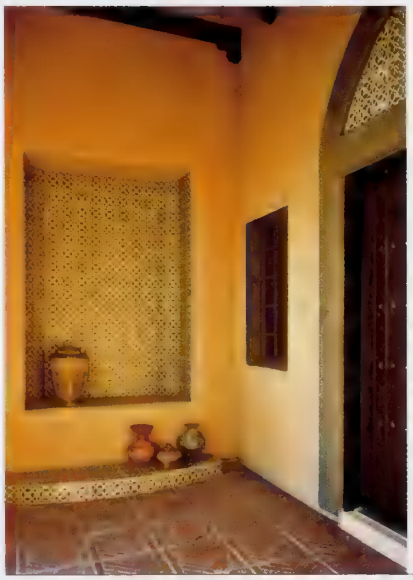
▲ Wall of fame

More than 2,800 local schoolchildren each contributed a hand-painted ceramic tile to the Children's Wall in the new Roseville, Calif., shopping center. Twenty thousand square feet of Italian tiles and thin-brick veneer were specified with an installation system including waterproofing/crack isolation membrane, latex bonding mortars, and latex grouts from TEC. 800/323-7407. TEC Specialty Products, Palatine, Ill. **CIRCLE 228**

► Stone mosaics



Using the centuries-old art of Byzantine and Florentine mosaic, in a composite technique, Lodestar offers floor medallions, tabletops and bases, wall murals, and tiles in a variety of shapes and sizes. Materials used include marble, natural hard stones, and semiprecious stones, such as serpentinite, sodalite, dolomite, quartzite, malachite, and onyx. 212/755-1818. Lodestar, New York City. **CIRCLE 224**



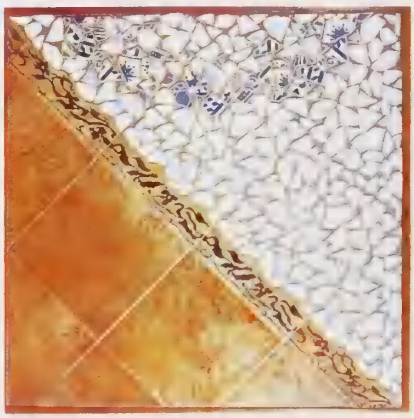
◄ Casa of tomorrow

The House of Tomorrow II, in Las Vegas, was built for $1.3 million by the U.S. Home Corporation. Designed in the style of an old Spanish hacienda, the home uses Spanish tile throughout the design. Eight Spanish manufacturers—Diago, Inalco, Keraben, Pamesa, Porcelanosa, Salon, Tau, and Venis—donated over 5,000 square feet of the latest floor- and wall-tile products to the project. 305/446-4387.
Tile of Spain Center, Trade Commission of Spain, Coral Gables, Fla. **CIRCLE 226**

► Timely terrazzo



The DuPage County Veteran's Memorial, designed by Wight & Company, of Downers Grove, Ill., is a bonded rustic terrazzo design in five colors. The inner circle of the design was ground and polished, with the outer circle remaining rustic terrazzo. The logo work had to be laid exactly so that the sundial would accurately indicate not only the time, but the hours until sunset, the day, and the month. 773/471-0700. National Terrazzo & Mosaic Association, Chicago. **CIRCLE 227**



◄ Gaudi tiles

This new collection of glazed porcelain tile from Italy was inspired by Spanish architect Antonio Gaudi. Manufactured by Rex Ceramiche Artistiche, the line includes four color-glazed porcelain tiles with up to 15 different glazes per tile. The mosaics and solids can be used on indoor or outdoor floors or walls. 800/222-1068. Hoboken Floors, Wayne, N.J. **CIRCLE 229**

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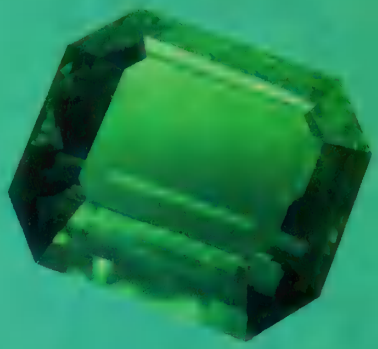
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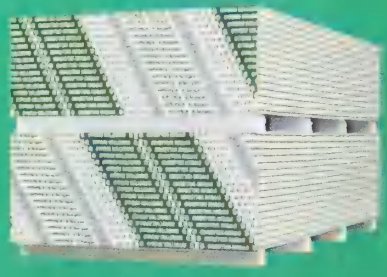
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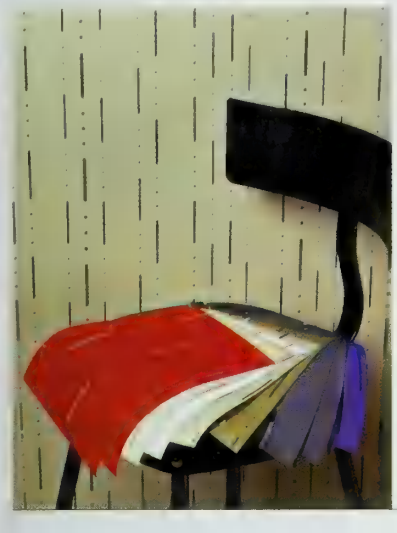
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Product Briefs



◂ Laurinda's new line

Linework, a collection of five mid- to large-scale designs, was inspired by architectural graphics that were transformed by Laurinda Spear, FAIA, into 54-inch-wide, type I and II contract wallcoverings. Visibly influenced by Spear's home base of Miami, the collection includes Palmrail, an undulating design resembling a stylized palm frond, and Rain (shown), featuring a stripe of dots and dashes available in several bright colorways. 800/347-0550. Wolf Gordon, Long Island City, N.Y. CIRCLE 230

Product of the Month
i-Ceilings



The new ceiling systems from Armstrong, named i-Ceilings, look just like ordinary ceiling panels but invisibly integrate sound and wireless systems into the ceiling plane. The wireless system features a special antenna panel (bottom right) that has a suite of antennae embedded in the ceiling panel to enable in-building wireless connectivity for voice and data. The system helps increase employee mobility and workplace effectiveness, providing clearer wireless telephone connections and easier access to the Internet and data networks. The sound system's sound panel (below left) delivers sound masking, paging, and music simultaneously as one speaker. 717/397-0611. Armstrong World Industries, Lancaster, Pa. CIRCLE 231





▾ Updated op art

Maharam has reissued two of Danish designer Verner Panton's geometric patterns from the sixties, Geometri (bottom right) and Optik (bottom left). Panton is the subject of a current retrospective at the new Vitra Design Museum in Berlin. While Maharam updated fiber content and construction to make Panton's work suitable for a wide range of commercial applications, the color combinations are exactly as Panton conceived and named them. 212/614-2988. Maharam, New York City. CIRCLE 232





▴ Traditionally styled television cabinet

The Grand TV Cabinet, part of the new Barbara Barry collection for Baker, comprises three individual pieces, each crafted from mahogany solids and veneers and offered in Baker's Java finish. The Grand Armoire houses a big-screen television and has details such as hand-painted, gilded decoration in Barry's signature X design; a flowing, scalloped top; and simple, carved feet. Two side cabinets fitted with brass latticework fronts can be partnered with the Grand Armoire, used individually, or grouped together. In addition, the collection includes a dining table inspired by 1940s French Art Deco, a Sofaback Etagère, and an ottoman designed with a complementing removable tray. 616/361-7321. Baker Furniture, Grand Rapids, Mich. CIRCLE 234

▾ Colorful rubber flooring

Noraplan Mega is designed to soften the signs of normal traffic in contract applications. Mega offers a smooth nonglare finish, slip resistance in compliance with ADA guidelines, stain- and wear-resistance, and the exclusive Nora Cleanguard features for easy maintenance. Flecks and clusters of color create a three-dimensional pattern in a range of 15 colors, including Sunshine, Blue Marble, and Rain Forest (shown). The Noraplan system is available in rolls and tiles. 800/332-NORA. Freudenberg Building Systems, Lawrence, Mass. CIRCLE 233



Product Briefs



▲ Table for eight without reservations

The Quickly folding table from Lammhults folds and unfolds in seconds. Quickly is easily handled by one person, and, for even easier installation, the designers created a wagon that transports up to 15 tables at a time. The table comes in five sizes and features a frame of powdercoated or chromium-plated steel tubing, and a surface of birch, beech, or laminate. With a special device that links multiple tables and a detachable modesty panel, Quickly can adapt to a variety of working environments. 800/668-9318. The ICF Group, Valley Cottage, N.Y. **CIRCLE 235**



◄ High-impact corner guards

The BluNose high-impact corner guard has a vinyl retainer that is nearly four times stronger than the company's continuous aluminum retainer and nearly six times stronger than other vinyl retainers. The lightweight yet durable retainer is manufactured from 100 percent regrind and is available in 54 standard, as well as custom, colors. 800/222-5556. InPro Corporation, Muskego, Wis.

CIRCLE 236

► Universal designed bath

Hewi seat and grab bars are made of durable, easy-to-grip nylon material that is nonporous, bacteria-resistant, shock-free, and able to maintain a moderate temperature. The tub seat, made of nylon slats that allow for drainage, attaches to the wall and folds up for easy storage. The grab bars come in standard and custom sizes and configurations. 717/293-1313. Hewi, Lancaster, Pa. **CIRCLE 237**



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Product Briefs

▼ Aluminum and solid-surface offerings

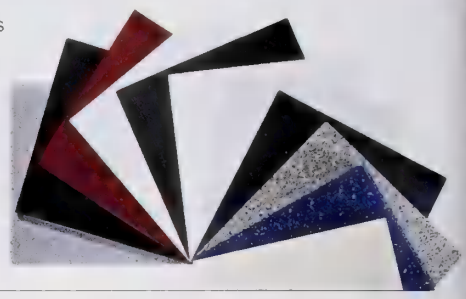
The traditional design of the Plainwell bench is now available in an all-aluminum style (right). The powdercoated bench has shaped, extruded aluminum straps, secured to cast-aluminum end frames, and it coordinates with the metal and glass found in urban areas. Marneaux solid-surface tables (below) have tabletops made from Avonite Formstone, a 100 percent acrylic resin solid-surface material. Weather, harsh chemicals, and UV rays have virtually no effect on the stonelike tabletops, which are available in seven standard and several optional colors. 800/521-2546. Landscape Forms, Kalamazoo, Mich. **CIRCLE 238**

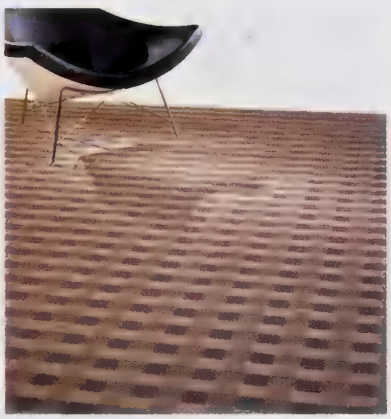




► East meets West

Eleven new colors of DuPont Corian represent a fusion of Eastern and Western design principles. The colors are divided into three collections representing high-tech culture (Anthracite, Blackberry Ice, Bronze Patina, and Winter Frost), humble rural settings (Beige Fieldstone, Gray Fieldstone, Linen, and Macadam), and ancient decorative traditions (Atlantis, Pompeii Red, and Riviera Mist). 800/4-CORIAN. DuPont Corian, Wilmington. **CIRCLE 239**

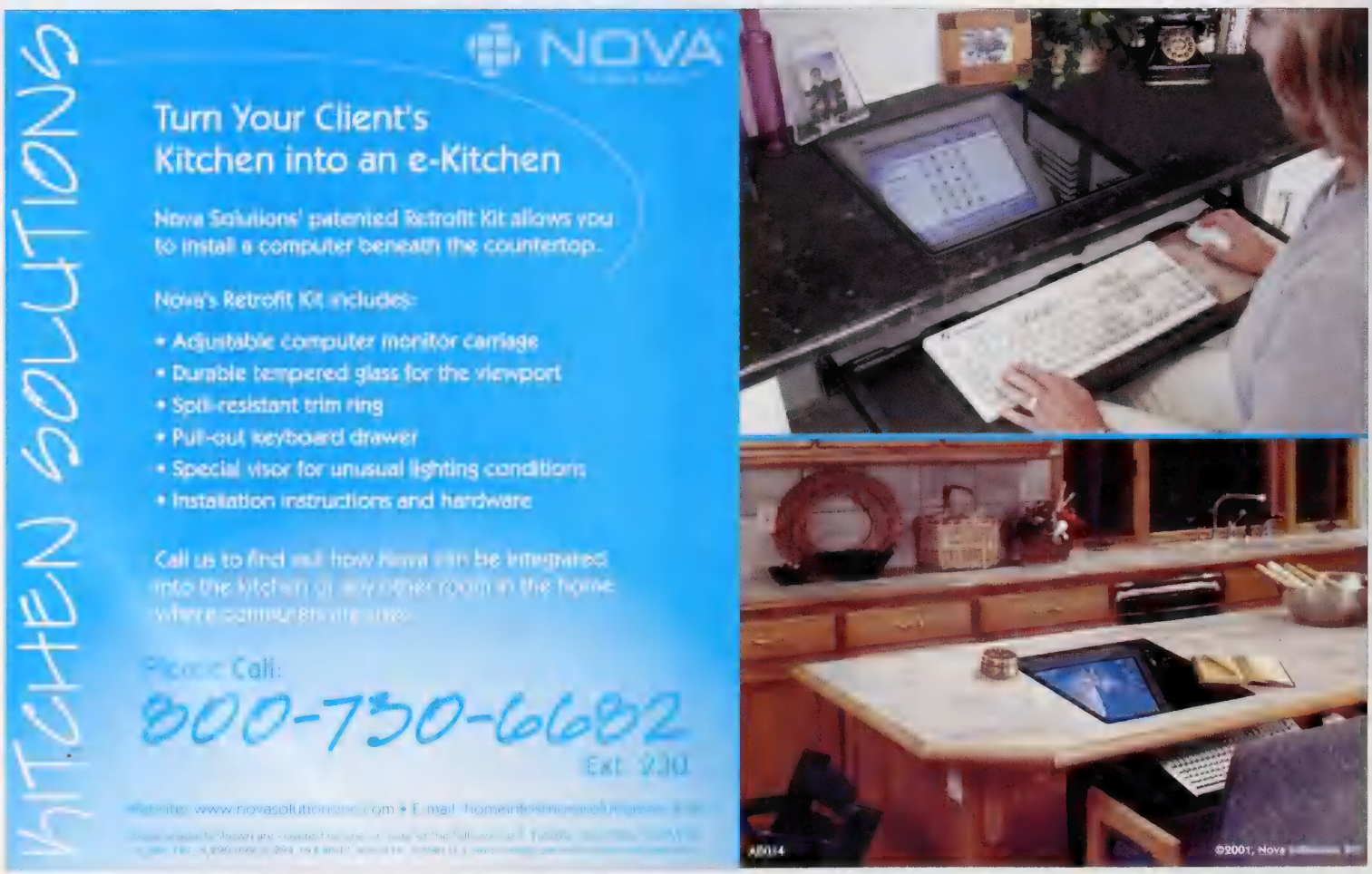




◄ Form and function

Retrospect is a group of three Postmodern designs of Ultron VIP nylon. Function is small-scale and minimalist, Form (shown) is multidimensional and medium-scale, and large-scale Mode features a field of wide vertical stripes crossed with horizontal bands of color, creating an interplay of squares, stripes, and rectangles. 800/257-7429. Shaw Industries, Dalton, Ga. **CIRCLE 240**

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Product Briefs

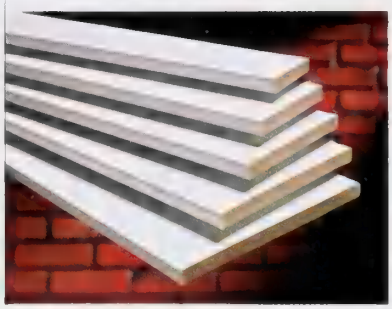


▲ Resin-based panel finish

Nestled in the Appalachian foothills in northeastern Tennessee, Bristol Dragway features 30,000 square feet of 22-gauge steel Planewall panels from CMP. PPG Industries, based in Pittsburgh, supplied a Kynar 500 resin-based finish that coats the panels. Atofina Chemicals is the only manufacturer of the Kynar 500 PVDF resin used in the project. 215/419-7000. Atofina Chemicals Inc., Philadelphia. **CIRCLE 241**

▼ Rot-resistant trimboard

Royal Wood Trimboard, a wood-plastic composite, blends a solid UV-stabilized polymer cap to a foamed core material made from wood fibers, additives, and thermoplastic resins. The result is a straight board that can be cut, nailed, and installed like wood but that doesn't rot, absorb moisture, delaminate, or split. The trimboards are intended for nonstructural, exterior trim for single-family, multifamily, and light commercial buildings. 602/272-4200. Precision Composites, Phoenix. **CIRCLE 242**

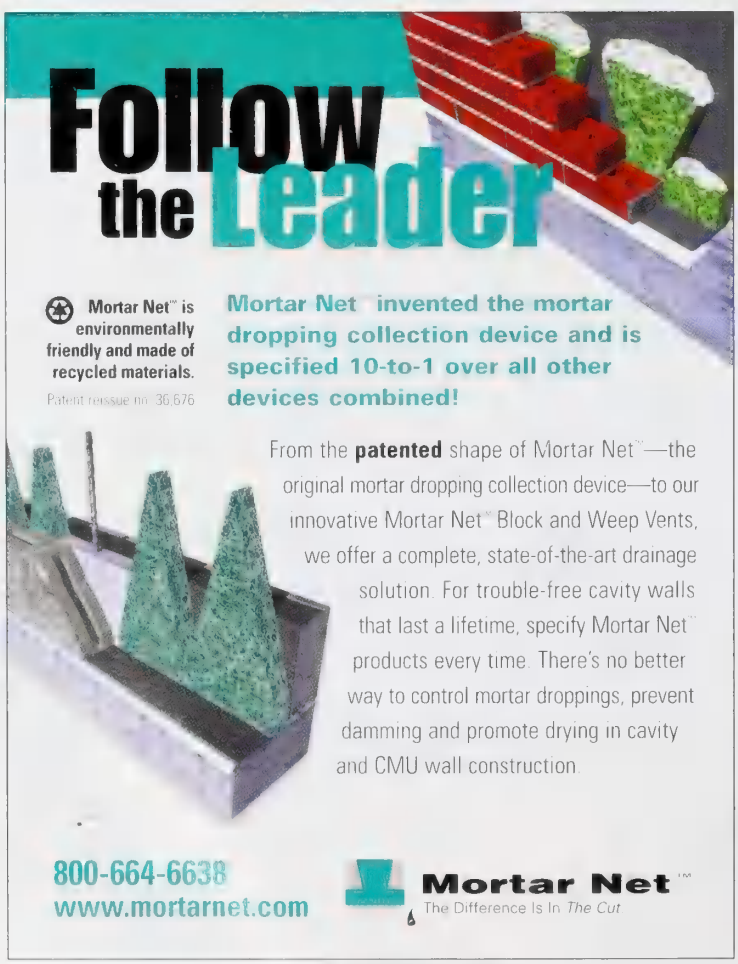




▲ Tie it all together

Preceding the flood of fashion designers who also design for the home, men's tie designer Audrey Buckner decided to create a fabric collection for upholstery and wall-coverings back in the late 1980s. Buckner was inspired by client requests for other applications for her fabrics, as well as by the lack of tailored fabrics that would cater to both men and women. Her newest design, "Oh Baby", is a flannel-finished alpaca that is naturally water resistant, stands up to 30,000 double rubs, and comes in 12 colorways (it is not guaranteed against fading). The fabric, made in Peru of 50 percent Alpaca and 50 percent wool, passes California Flammability Bulletin 117 SEC E. 212/581-1150. Audrey Buckner, New York City. **CIRCLE 243**

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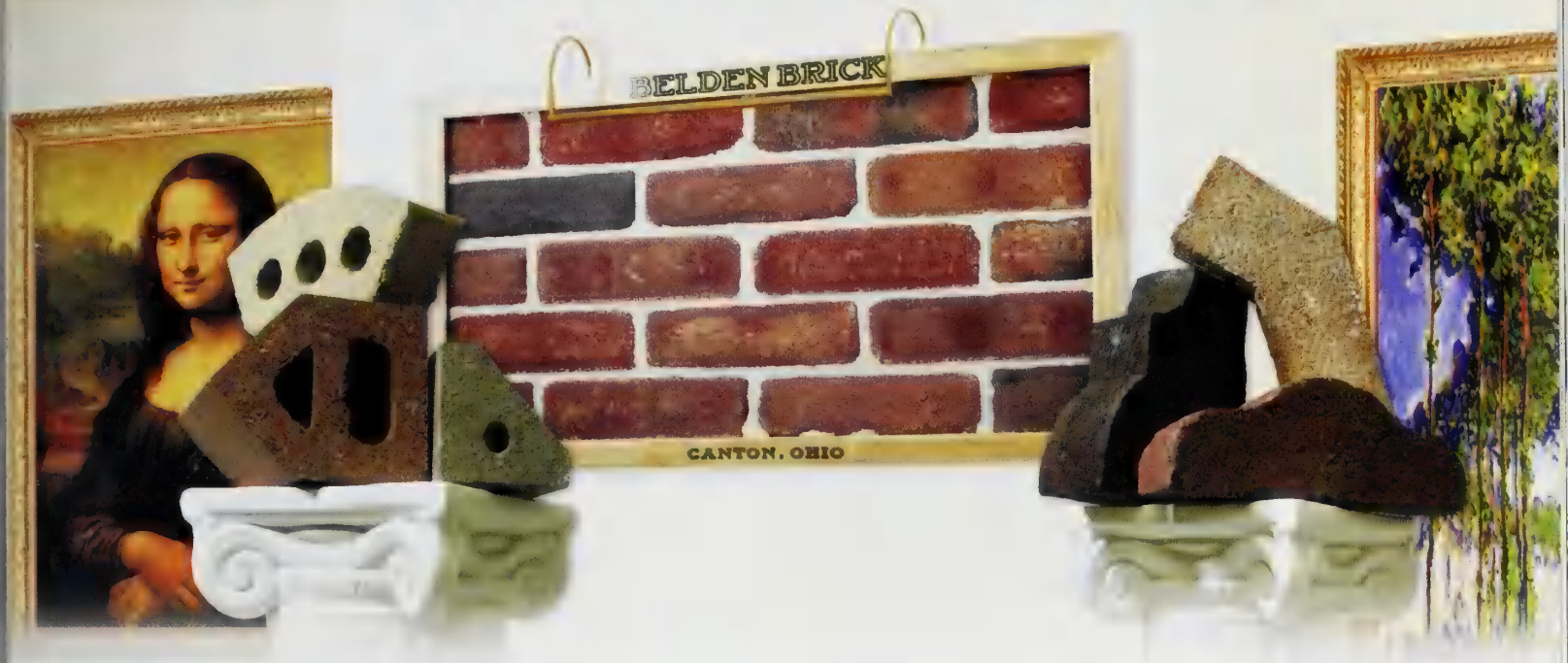


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Product Briefs

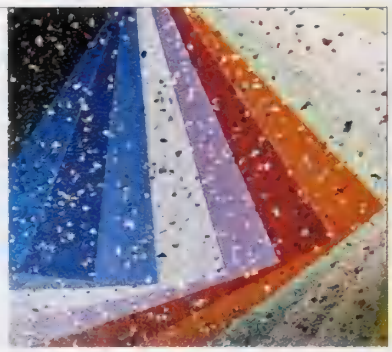


◄ Why wait for vintage?
The original designs for the Lobby Collection of aluminum seating were influenced by waiting-room furniture found in barbershops and doctors' offices throughout America. Made of aluminum framing, the loose-cushioned sofa and chair are available with wooden arm caps in three finishes: black, natural, and brown. 800/668-1020. Sonrisa Furniture, Los Angeles. **CIRCLE 244**



▲ Getting a drink with fewer spills
Unlike the standard bubbler with push-button access on top of the sink, which might be out of reach for some schoolchildren, the remote bubbler can either be mounted on the top of a counter or attached to the front of a cabinet. Special tubing allows the bubbler, designed to prevent accidental injury, to be located up to 20 inches away from the push button. 630/574-8484. Elkay Manufacturing Co., Oak Brook, Ill. **CIRCLE 245**

► Clean enough to eat off
Polysafe Astral features the new Supratec system, developed in partnership with DuPont, that can be quickly mopped clean using nontoxic solvents. Polysafe Astral is offered in 12 new colors and contains Polyflor's Bioguard bacteriostat for enhanced hygiene protection. 800/852-8292. Bonar Floors, Newnan, Ga. **CIRCLE 246**



► Hand-carved hardwood moldings
White River has added Authentic Handcarved Woodcarvings to its product line. The 45 profiles include scrolls with centers, swags, scrolls, centers, drops, corners, corbels, capitals, and rosettes. Each full-thickness, solid-wood piece is hand-carved and accepts any finish, including stains. The pieces can be used to embellish mantels and surrounds, ceilings, wall panels, doors, cabinets, or stairs. 800/558-0119. White River Hardwoods-Woodworks, Fayetteville, Ark. **CIRCLE 247**



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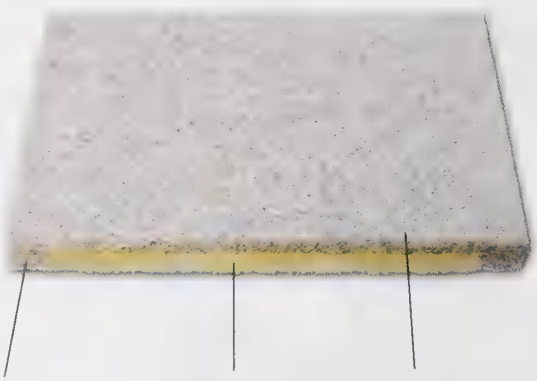
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Product Literature

Hardwood doors/entryways

Chautauqua Woods has released a color product catalog featuring solid hardwood doors and entryways. The catalog shows single and double doors, sidelights, transoms, and numerous standard and fully custom leaded-glass designs, crafted in the in-house, art-glass studio. 716/366-3808. Chautauqua Woods, Dunkirk, N.Y. CIRCLE 248

Vinyl flooring folders

Parterre Vinyl Flooring Systems is launching new architect folders and chain sets that complement its recently introduced product catalog. 888/338-1029. Parterre Vinyl Flooring Systems, Brooklyn, N.Y. CIRCLE 249

Modern furniture catalog

The "Inspiration" catalog from Fritz Hansen features new furnishings such as the VicoLounge seating collection and the Plano table series. +44/020 7837 2030. Fritz Hansen A/S, London. CIRCLE 250

Metal panel CD

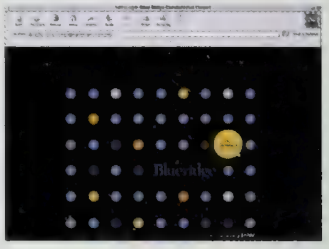
Met-Tile and Curveline have published a CD describing the two companies' metal panel products and services. The new electronic catalog provides information about Met-Tile "tile panel" roofing and about the Curveline service center, which specializes in a patented method for curving profiled metal roofing, wall, and decking panels. 800/899-0311. Met-Tile/Curveline Inc., Ontario. CIRCLE 251

Lighting catalog

The new 2001 catalog from Ruud Lighting offers 240 pages of products and services. 800/236-7000. Ruud Lighting, Racine, Wash. CIRCLE 252

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Download product specs and order samples online from Blue Ridge Carpet **www.blueridgecarpet.com**



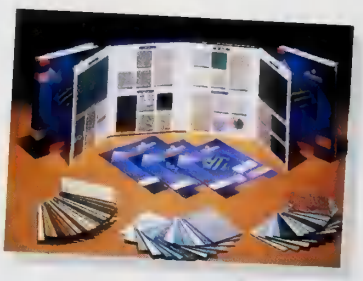
Detail drawings, specs, and product info for folding and roll-up doors **www.woodfold.com**

Free monthly events calender for designers in New York, New Jersey, and Connecticut. **www.applebytes.com**

Revised lighting site **www.bega-us.com**









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Product Literature

Decorative lighting

Meyda Tiffany has introduced two new catalogs that feature new lamps, lighting fixtures, fireplace screens, stained-glass windows, and furniture. The two catalogs supplement the firm's 244-page catalog. 800/222-4009. Meyda Tiffany, Yorkville, N.Y. **CIRCLE 253**

Landscape furnishings

Dura Stone's new 32-page color catalog includes dozens of new items and has complete ordering information on planters, bowls, trash receptacles and urns, tree grates, bollards, tables and benches, balustrades, pools and fountains, columns and posts, signage, and more. 800/821-1120. Dura Art Stone, Fontana, Calif. **CIRCLE 254**

Ceiling selection

The 2000/2001 Ceilings Systems catalog is an easy-to-use reference for specifying USG ceiling products. 800/USG-4YOU. USG, Chicago. **CIRCLE 255**

History of color

Pittsburgh Paints 30-minute *Voice of Color* video provides factual information about the scientific and psychological basis for color. It details and illustrates the history of color, the use of color as an expressive tool, and the effect of light on color. "The Voice of Color" is the sixth course offering of PPG's continuing education services for members of the AIA and earns one AIA credit. 888/PPG-SPEC. PPG Industries, Pittsburgh. **CIRCLE 256**

Hardwood over concrete

The Hardwood Council offers a how-to guide on installing hardwood flooring over a concrete slab in its *Tips & Techniques* brochure No. 1. The guide covers keys to managing natural expansion and contraction in hardwood products. 412/281-4980. The Hardwood Council, Oakmont, Pa. **CIRCLE 257**

HVAC handbook

The American Society of Heating, Refrigerating, and Air Conditioning Engineers (ASHRAE) has published the 2000 ASHRAE handbook, *HVAC Systems and Equipment*. 800/5-ASHRAE. ASHRAE, Atlanta. **CIRCLE 258**

Lighting-controls catalog

Tork offers a new selection guide for specialized lighting controls. 914/664-3542. Tork Inc., Mount Vernon, N.Y. **CIRCLE 259**



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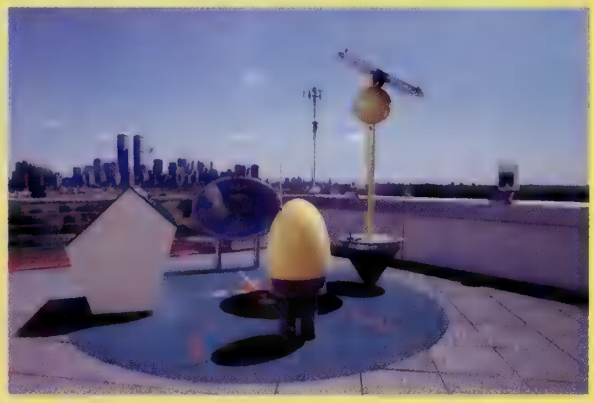
SOLARSCAPES

Liberty Science Center and GPU Energy are pleased to announce the winners of their SolarScapes competition.

This competition represented an opportunity for the art and design communities to submit proposals for the commission of two large-scale solar art projects for Liberty Science Center, in Liberty State Park, New Jersey.



Project One: A Lightwork, LSC Tower
Firefly Light Sculpture
by The Group Y (A Mark Yurkiw Group Company)
www.think3-d.com



Project Two: Interactive Exhibit, LSC Exterior Deck
SolSpherica
by Amelia Amon and Wendy E. Brawer
www.greenmap.com

LSC Liberty Science Center
www.lsc.org

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Dates & Events

Calendar

Before + After
Denver
January 26–February 23, 2001
An exhibition featuring 20 projects from national submissions. Co-curated by ML Robles and Barbara Ambach and reviewed by guest jurors Daniel Libeskind, Harry Teague, Clark Stevens, and Elizabeth Wright Ingraham. At the Colorado AIA. Contact 303/443.1945.

New New York 2
New York City
January 18–March 14, 2001
An exhibition that highlights significant recent architecture commissioned for cultural, and other, facilities in New York City. At the Architectural League of New York. Contact 212/753.1722 or see www.archleague.org.

Form and Function: Beyond Brancusi, Sculptures by John Safer
Washington, D.C.
February 7–March 3
A showing of American sculptor John Safer's work in brass, steel, and Lucite will be kicked off with a discussion, entitled "Form and Function: An Artist and an Architect Discuss Design," between the artist and L. William Chapin, FAIA, President/CEO of the American Architectural Foundation Arts Society of the International Monetary Fund. Contact Linda Byron, 202/623.7718.

Building Futures Council (BFC) Meeting to Highlight Environmental Challenges
Marco Island, Fla.
February 8–9
Topics include a forum on the EPA's innovative "Project XL" and "eXcellence and Leadership," a national pilot program that allows state and local governments and businesses to work with the EPA to develop innovative strategies for environmental and public health protection. Contact 202/785.6426 or see www.the bfc.org.

Workspheres
New York City
February 8–May 8
An exhibition that examines the role of design in developing solutions for the workplace of the future. Six international design teams were commissioned to create concepts for new work environments and tools. Museum of Modern Art. Contact 212/708.9750 or see www.moma.org.

Building Envelope Contractors Conference
Las Vegas
February 11–13
Features include a discussion about the coming age of 'e-construction.' Sponsored by GANA. At the New York-New York Hotel and Casino. Contact 785/271.0208 or E-mail gana@glasswebsite.com.

Libeskind Lecture on the Jewish Museum in Berlin
Dallas
February 15
Architect Daniel Libeskind to speak on this project at the Dallas Architecture Forum. Contact 214/740.0644 or see www.dallasforum.org.

Shaping the Great City: Modern Architecture in Central Europe, 1890–1937
Los Angeles
February 20–May 6
An exhibition that explores the origins and development of modern architecture in Central Europe before and after World War I, a time of dramatic social and political change. At the J. Paul Getty Museum. Contact 310/440.7360 or see www.getty.edu.

Cities in the Third Millennium
Melbourne, Australia
February 26–March 2, 2001
The sixth World Congress of the Council on Tall Buildings and Urban Habitat will feature more than 80 local and international speakers and a large exhibit. Call 613/9682.0244 or see www.icms.com.au/tbuh.



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The Architecture of R.M. Schindler
MOCA at California Plaza, Los Angeles
February 25–June 3
First major survey of this century's most innovative Vienna-born Modernist. For information call 213/626.6222 or see MOCA-LA.org

Construction and the Internet
Beverly Hills, Calif.
March 8–9
A conference on the relationship between construction and the Internet. At the Beverly Hilton Hotel. Contact Meredith Arbus at 416/216.5481 or at meredithа@marcusevansto.com.

Aluminum by Design: Jewelry to Jets
New York City
March 20–July 15
This exhibition explores how aluminum has inspired innovation in design, including works by such visionaries as René Lalique, Jean Prouvé, Ludwig Mies van der Rohe, Russell Wright, Charles and Ray Eames, and Gio Ponti. At the Cooper-Hewitt. Contact 212/849.8400 or see www.si.edu/ndmdummt.

Symposium on Asia-Pacific Architecture
Honolulu
April 5–April 7
The fourth international symposium is entitled "Sensible Design and Smart Practice," and the theme is "Technology, Innovation, and Entrepreneurial Design Practice: New Paradigms for a Changing Global Economy." At the University of Hawaii School of Architecture. Contact 808/956.7084, E-mail archsymp@hawaii.edu.

Competitions

Spectrum International Ceramic Tile Design and Prism International Natural Stone Design Competition
Deadline: February 15
Projects may be entered in residential or commercial categories and can be new installations or renovations. Cash prizes from $1,500 to $10,000. Contact 877/566.0600 or see www.coverings.com.

The Architectural League of New York, City Limits 2000–2001 Young Architects Forum
Deadline: February 14, 2001
Open to designers 10 years or less out of undergraduate or graduate school. Winners receive $1,000 cash prize, exhibit their work and present lectures during the spring at the League in New York City. Contact 212/753.1722 or see www.archleague.org

The Second Annual Dryvit International Competition
Deadline: March 1, 2001
Commercial or residential buildings featuring a Dryvit exterior on at least 75% of the project are eligible. The winner will receive a cash prize and the work will be published in RECORD in July 2001. Contact 800/556.7752 or see www.dryvit.com.

National Trust/HUD Secretary's Award for Excellence in Historic Preservation
Nomination Deadline: March 1
This award is presented to individuals and organizations whose contributions demonstrate outstanding achievement in historic preservation. For submission information go to http://www.huduser.org/research/nthp2000.html

National Preservation Honor Awards
Nomination Deadline: May 1
Eligible candidates have completed an outstanding preservation project in the past three years. Contact Susanna French at 202/588.6125.

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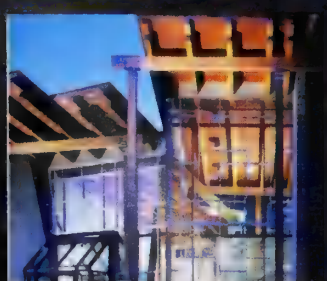
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1998 Honor Award; Craven Road House Toronto; Shim-Sutcliffe Architects photo: Michael Awad.



1998 Merit Award; Fisher Science and Academic Center, Great Barrington, MA; Bohlin Cywinski Jackson photo: Matt Wargo.



1998 Honor Award; Clarke House, Chesapeake, MD; Hugh Newell Jacobsen, FAIA. photo: Robert C. Lautman.

The Wood Design Awards combines the highly successful programs formerly offered by the American Wood Council and Canadian Wood Council. Winning projects will be publicized in the media, in a special edition of Wood Design & Building magazine, on the Wood Design & Building web site and at Wood Solutions Fairs.

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ANSWERS

Questions appear on page 160. To receive CES credits, fill in the education reporting form below or on our Web site (www.architecturalrecord.com).

1. Research has determined that 200 to 250 students is the ideal number of students for a school. To meet this criterion, large schools will group students into smaller "academic houses" or "clusters" of classrooms designed to accommodate that number but also capable of being expanded or contracted; activity rooms of varying sizes will also be made available to students. Expandable room sizes do not fit easily into the double-loaded corridors of traditional school layouts. This design approach is a departure from the standard formula of x square feet per student.

2. An agile space is one that can be reconfigured to accommodate small or large groups with different needs, possibly combining two different spaces for some other uses. Agile spaces can accommodate new teaching models, such as team teaching and small-group activities. Flexible spaces, on the other hand, are a misnomer, because they tend to allow only the repositioning of equipment, not the reconfiguration of space.

3. Libraries traditionally have been storage places for books, magazines, folios, as well as videos and recordings. They remained static, while users came to the library. With information available now on personal computers, users can access the library of information from wherever they are, instead of going to the physical library. The physical storage requirements of libraries are also changing as periodicals become available online. With the new classroom configurations, librarians will distribute books and other educational materials to classroom clusters or academic houses.

4. Classrooms will have several activities going on simultaneously, which the basic rectangular shape does not support well. In order to create a room geometry that can accommodate different activities, more corners are needed. The L shape allows the space to be divided into two rectangles, doubling the number of corners. It also supports an interdisciplinary approach to learning, whether it's a CAD lab associated with a fabrication shop or a classroom with an adjacent "wet" area for art and science projects.

5. As access to the Internet becomes universal, teachers and students alike, at every grade level, will be able to get expert opinions on a wide variety of subjects. Thus teachers won't have to be the main source of information for their students. The teacher's role will change from information provider to information resource or facilitator. Teachers will guide students as to how to get information, what kind of information they need, and where to find that information. For their part, students will have more independence and will be expected to work in small groups on research projects.

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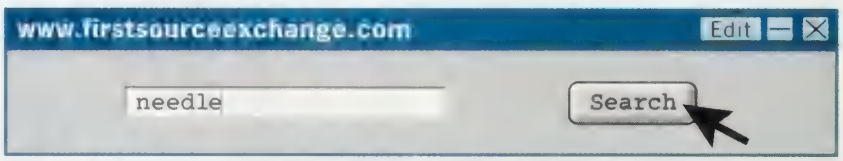
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We have given special attention to each & every component of our fence. Every item is designed for strength, durability and low maintenance. No other company builds a complete fence — rail, rivets, brackets, pickets and posts, that is stronger, more durable, have more security or lower maintenance costs than our fences. Monumental Iron Works, 6500 Eastern Ave., Baltimore, MD 21224. Tel: 410-633-6500, Fax: 800-239-2963.

Monumental Iron Works

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Brochure details our complete selection of quality heavy-duty entry matting and carpet-like tile. Musson has the experience to guide, the ability to customize, and the facilities to produce surface or recess entrance mats that meet your specific needs. Sample products are made of rubber, vinyl and nylon carpet fibers. Others include fluff cord and traffic tiles, cocoa, Quill-Tuft and aluminum/vinyl roll-up mats. Ph: 800-321-2381 www.mussonrubber.com

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Ludowici Roof Tile



After more than 100 years, Ludowici clay roof tiles remain the preferred choice of architects and building professionals. No other clay tile manufacturer offers more colors, styles, fittings, textures, or finishes. And every tile is backed with a 75-year limited warranty (see actual warranty for details). Call for full-color brochure or visit www.ludowici.com

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Save on Sports Flooring

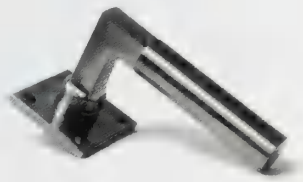


Visit the new Tuflex Rubber Flooring website at www.tuflex.com to see the complete line of rugged, 3/8" thick sports flooring including Spartus, Titan, feature strips for borders and accents, customized logos, reducer strips for wheel chair accessibility and the new 4' x 6' ColorMat. Architectural specifications, installation and maintenance information, a company profile and Tuflex flooring's place in history as an early recycled product are included. Call 800-543-0390.

Tuflex Rubber Flooring

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NANZ



The No. 2006 is a Bauhaus handle based on a Walter Gropius design. Nanz manufactures this and a wide range of other levers, knobs, locks, hinges and cabinetry hardware. Fax a request for our free Product Selection Guide or our $20 catalogue featuring this and over seventy other handles. phone 212-367-7000, fax 212-367-7375. www.nanz.com

Nanz Custom Hardware Inc.

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Decorative, Thin-Film Intumescent Fireproofing



Improved spray characteristics & ratings up to 3 hours! A/D FIREFILM®II permits designers to use the appearance of exposed steel with the steel protected from fire. The product is applied as a thin-film coating 0.4 to 3.3 mm (16 to 130 mils) thick. When exposed to fire it expands to form a meringue-like insulating layer up to 4 in. thick. A/D COLORCOAT topcoat is available in a wide range of colours. Call 800-263-4087 or 416-263-4087. Internet: www.adfire.com See us in Sweets.

A/D Fire Protection

CIRCLE 162 ON INQUIRY CARD

Ancor Granite Tile



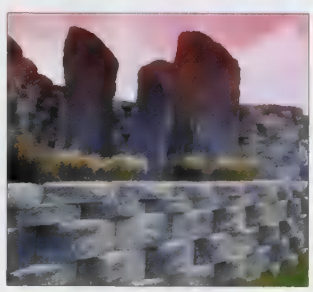
Ancor produces over fifty No. American and Imported granites in a full range of colors and finishes for residential, commercial and institutional use. Standard format is 12 x 12 x 3/8"; other sizes up to 18 x 18 x 1/2" available. Honed finish tile is particularly suitable for high traffic commercial areas, 435 Port Royal West, Montreal, Quebec, H3L2C3, Canada. Ph: 514-385-9366, Fax: 514-382-3533.

Ancor Granite

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Keystone Retaining Wall

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Keystone Ridge Designs

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Shoji - Custom Dividers, Passage and Pocket Doors

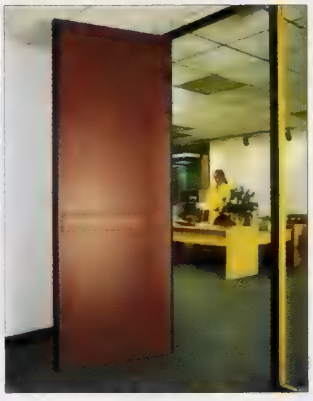


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Applications

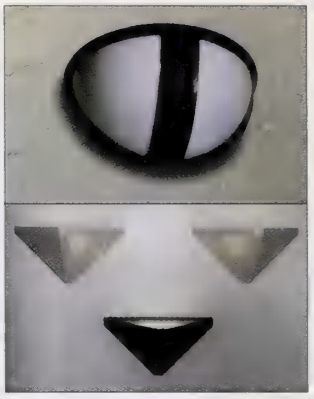


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Openings

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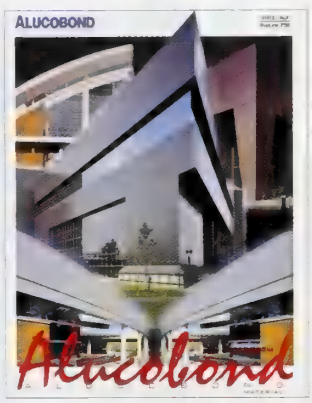


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New Alucobond® Material Brochure

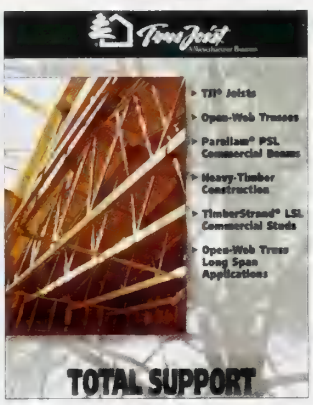


Totally new Alucobond® Material brochure in dramatic new format illustrates the use of Alucobond Material in a variety of innovative applications and colors. Alucobond Material is the original ACM (aluminum composite material) and has been used on more than 50,000 buildings worldwide. Alucobond Material is always the affordable solution. For more information, call 800-382-6445 or visit www.alusuisse-comp.com

Alusuisse Composites, Inc.

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Structural Building Products



Trus Joist is committed to building better design solutions. How? By offering efficient structural building products supported by the broadest range of services available from an engineered lumber company: Our entire product line is guaranteed for the life of the structure; Trus Joist technical representatives are located throughout North America; User-friendly engineering automation software programs. Visit us at www.trusjoist.com or call 800-562-0931.

Trus Joist

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Dodge-Regupol Launches ECOsurfaces™



Dodge-Regupol (DRI), the world's largest converter of post-consumer tire rubber, launches Ecosurfaces™, xtreme recycled rubber™ flooring for both indoor & outdoor commercial applications. Not only environmentally sound, but also available in 38 vibrant colors, Ecosurfaces in rolls & tiles responds directly to designers' needs & their budget concerns. For a fresh new colorful way to create attractive environments, call Gerbert Ltd. at 877-Ecosurfaces (877-326-7873).

Gerbert Ltd.

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Vertical Platform Lifts



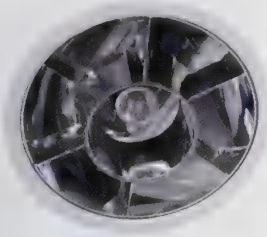
The National Wheel-O-Vator Co., Inc. designs the Vertical Platform Lift with quality, dependability, customization and service in mind. We are committed to manufacturing the best vertical platform lift in the business. When your number one need is accessibility for a new home, pre-existing home or commercial application, call National Wheel-O-Vator at 800-968-5438. email: wgreaves@wheelovator.com web site: www.wheelovator.com

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Multifunction LouverLites by WILA



Multifunction is a unique combination of both the CFL and MR-16 lamps in a single ultra-shallow depth fixture. For applications such a conference rooms, teller stations, and other situations where controllable task ambient lighting from a single luminaire is preferred. Multifunction comes available with several different LiteOptic's in order to customize the working environment.

WILA

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Derek Marshall Lighting

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Arc Sconce U.L. ADA



The Classic Arc Sconce by Lumetta Lighting, one of a collection of high quality architectural light fixtures, that includes sconces, pendants, torchieres, and custom designs. All fixtures are available in a large choice of diffuser colors and frame finishes. Phone: 877-586-3882 www.lumettainc.com

Lumetta Lighting

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Art – Aesthetics – Lighting BELL Pendant



Orbit North America Ltd. features a collection of individually hand-blown truly artistic glass series for pendant monopoint, cable system or mono rail mountings. All glass pieces are available in several unique finishes, shapes and size. A white interior coating ensures even light distribution throughout the glass, minimizing hot spots. Suitable for project applications within the residential, commercial and hospitality industry. www.orbitlight.com

Orbit North America, Ltd.

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Space Cannon

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Complete Light Distribution

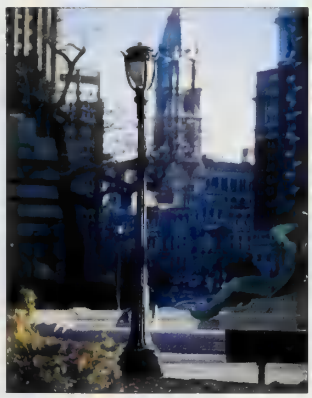


Primelite Manufacturing offers sign lights of high quality. Wide assortment of arm bends & heads made of weather resistant aluminum. Our sign lights are available in HID, incandescent, PL Primelite offers an entire line of decorative outdoor fixtures, poles, wood post, post lights, wall brackets, indoor fixtures, factory shades, cased glass, prismatic glassware, sconces, prismatic acrylic spheres and shades. 516-868-4111 Fax: 516-868-4609 Web: Primelite-MFG.com

Primelite Manufacturing

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Cast Aluminum Lighting

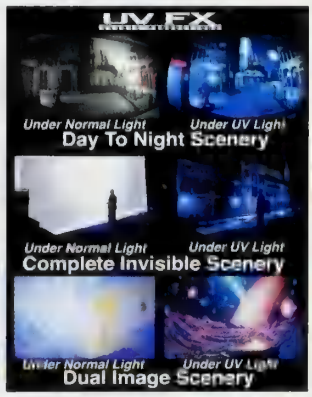


Sun Valley Lighting manufactures an extensive line of Standard & Custom cast aluminum lighting poles & fixtures in all period styles. Our 50 years of design & manufacturing experience provides you with unexcelled product quality. Our staff of designers, engineers, and tool makers are here to assist you. Our in-house foundry assures quality and prompt delivery at competitive costs.

Sun Valley Lighting

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UV/FX Scenic Productions

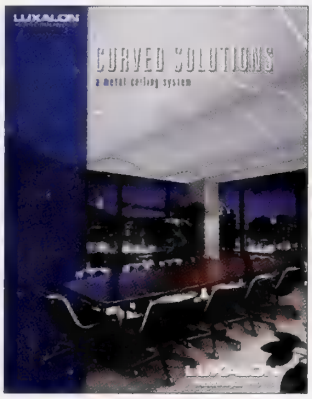


UV/FX wrote the book on Ultra-Violet Visual Effects which are designed, art directed and painted on any surface from floor to ceiling. UV/FX specializes in Dual Image Scenery, Complete Invisible Treatments, Day to Night Effects, 3-D Scenery and more for changing themed walls, backdrops and ceilings. www.uvfx.com. Tel/Fax 310-392-6817.

UV/FX

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Curved Solutions

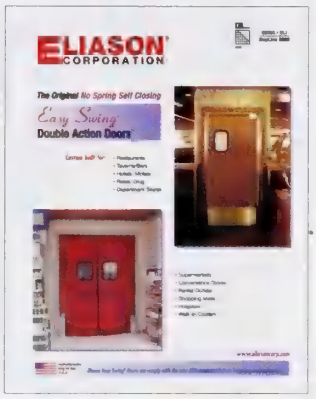


Luxalon Curved Solutions, an exposed grid system by Hunter Douglas, provides the opportunity to create both volume & sculpture. Flowing ceiling surfaces can complement a variety of interiors & enhance acoustical performance. Available in both stocked radii & custom radii, Curved Solutions metal ceiling systems are economical & easy to install. For additional information call 800-366-4327 or visit www.hunterdouglasceilings.com

Hunter Douglas, Inc.

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Eliason Easy Swing® Double Action Doors

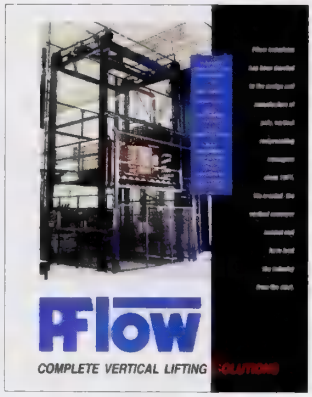


Eliason, the original & only manufacturer of Easy Swing® Doors, has announced the availability of their new 2001 Price Spec catalog. Doors are color illustrated with complete specifications and prices. Available in a variety of sizes, styles and decor options. Doors are sold direct and the price catalog is sent no charge. Eliason Corporation, P.O. Box 2128, Kalamazoo, MI 49003. Tel: 800-828-3655 Fax: 800-828-3577 Email: doors@eliasoncorp.com Web site: www.eliasoncorp.com

Eliason Corporation

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Pflow Vertical Lifts transport materials between two or more levels. Designed for mezzanines, through floor, interior & exterior applications. Capacities from 10 lbs. to 100,000 lbs., vertical heights to over 200', carriage sizes to 30' x 30'. Mechanical, hydraulic and fully automated systems. Guaranteed code approval. Visit Pflow website for complete product information and CSI specs. Call 414-462-8810 Fax: 414-462-2673 www.pflow.com

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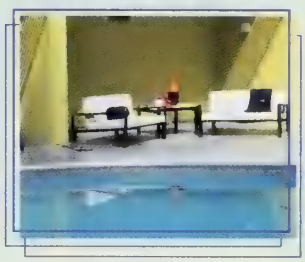
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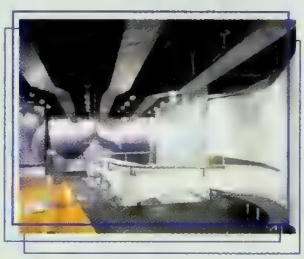
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Designer/Project manager from company located in Boca Raton, Florida. 40-hour week, 9AM-5PM, $30.55 per hour, Bachelor's or foreign degree equivalent in Architecture and 2 years experience in job offered or 2 years as an architect. Supervise 3 employees. Prepare working plans and detailed drawings from rough or detailed sketches and notes for engineering or manufacturing purposes according to dimensional specifications,calculate and layout dimensions samples, curvature parts, materials to be used, utilize knowledge of architectural practices, mathematics, building materials, manufacturing technology and related physical sciences, create preliminary or final sketches of proposed drawing, using standard drafting techniques and devices such as drawing board, T-square and drafting machine or use computer assisted design equipment, will modify drawings as directed by engineer or architect. Work with Microsoft, AutoCAD, Excel and MS Word. Submit resume to: Agency for Workforce Innovation, Bureau of Workforce Program Support, P.O. Box 10869, Tallahassee, FL 32302. Re:Job Order #FL-2142158.

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Architectural Designer/Drafter sought by architectural firm specializing in commercial architectural, space planning located in Orange, CA., to design drawings and construction documents. Must have a Bachelors Degree in Architecture. Send resume to: Matteo Nardini & Dan Stanley Architects, Inc. (REF: PCL) 926 Town & Country Rd., Orange, CA 92868.

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Qualifications

A post-baccalaureate degree from an accredited college or university and professional credentials in architecture, urban planning, or civil engineering are highly preferred. In addition to having sensitivity to and experience with design practices of universities or comparable institutions, candidates must be able document their ability to manage large and complex facilities, effectively lead a diverse, professional staff, and competently administer university funds. Successful candidates must be effective communicators and able to work successfully across all levels of the university, demonstrating collaborative decision-making skills.

Application Procedure

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Refer to Job #1492. The position is open until filled. Starting salary for this position will be competitive and commensurate with the candidate's experience. The position includes a broad and attractive benefits package.

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Dean, School of Architecture

Florida International University
Miami, Florida

The Florida International University School of Architecture invites nominations and letters of application for the position of Dean, the academic and administrative leader of the school. Florida International University is a Carnegie "Doctoral/Research University Extensive," firmly committed to excellence in teaching, research and community service.

The mission of the School of Architecture is to provide both excellence and access to all qualified students in the fields of architecture, landscape architecture and interior design. The school offers comprehensive undergraduate, non-professional degree programs in architectural design and interior design, structured around the University's rigorous liberal arts core curriculum, supplemented by courses offered in the School of Architecture. The five primary goals of the School of Architecture are 1) to provide an excellent education in architecture, interior design and landscape architecture, 2) to generate new knowledge through a vigorous and ambitious commitment to research, 3) to encourage creativity by fostering an atmosphere conducive to the expression of ideas, artistic development and communication with the external community, 4) to serve the School of Architecture's external community, with special attention to the South Florida region, and 5) to foster greater global understanding as a major center of international design education for the people of the Americas and the international community.

Florida International University's location in Miami, a culturally vibrant and ethnically diverse metropolitan community at the crossroads of the Americas, offers a rich source of distinguished practicing professionals as faculty, who, in turn, have a profound effect on the program. Miami offers students an urban and natural laboratory unparalleled in stimulation and opportunities for research. The School of Architecture is presently comprised of 54 faculty and a diverse student body of 550. Students are offered two undergraduate degree programs in Architecture and Interior Design, and two graduate degree programs in Architecture and Landscape Architecture.

The School of Architecture seeks an individual committed to providing the leadership necessary to implement the standards of unqualified excellence which the school enjoys. The Dean will affirm the mission of the School while overseeing its continued evolution within an institution engaged in community-wide study and planning efforts. Candidates must demonstrate a significant contribution to the culture of architecture and other design professions, through their work in education, practice and/or writing. Applicants and nominees for the position of Dean should possess a professional degree in architecture, interior design or landscape architecture and a terminal degree in one of these professions or related field; strong academic leadership in a multidisciplinary environment; demonstrated ability to collaborate with students, faculty, staff and administrators; vision to build on the strengths of the school; a demonstrated commitment to external relations and generating external funding and a commitment to building ties with Latin America and the Caribbean.

Letters of application and nominations will be accepted until March 15, 2001. The salary is competitive and will be commensurate with qualifications. Letters of application should include a brief statement of intent and a detailed curriculum vitae. Applications will be reviewed in confidence. Florida International University, a member of the State University System of Florida, is an Equal Access/Equal Opportunity Employer. Materials Should be addressed to:

Dean Fernando Gonzalez-Reigosa
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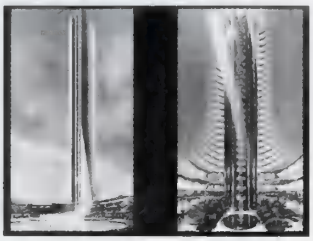
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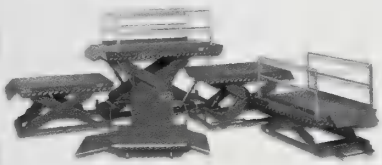


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Clodagh has one name and you won't forget it

Interviewed by Rita F. Catinella

Named after a river in her native Ireland, Clodagh opened her New York–based architectural and design studio in 1983. The firm provides an array of services for architecture, interior design, product design, and even feng shui consultation. Current projects include the home for the CEO of Elektra Entertainment and a spa in Kiawah Island, S.C. Her sensitive use of materials and sensual designs have drawn the attention of many high-profile clients, including Robert Redford, who recently had Clodagh renovate his duplex penthouse. Total Design, *Clodagh's first book, hits stores this spring.*

Q: *Why do you go by one name?* I realized when I left school that I might get married and change my name, but my first name, which is unusual, would never change. Also, people liked it, and I'm a minimalist, so since I was 16 I've been using one name. *You hold an open house at your showroom every week. Why?* When I first came here, the design community was very open and helpful, particularly people like Adam Tihany, who just opened up his Rolodex to me. So when I moved to a larger studio I thought that maybe this would be a way to be open to the community. People can look at our materials library, hang out and talk with us, and artists can come in and show their work in a nonthreatening way. My theory is that there is enough work for everybody, and I don't feel competitive about our resources.

Was branding yourself and your firm intentional? Absolutely intentional. When I was in fashion I started licensing my designs and I became aware of the importance of a name that actually meant something that was recognizable. When I came here it was fully with the intention of building up a name for life-enhancing, environmentally sensitive design.

Can you explain your philosophy of Total Design? It incorporates all of the senses and elements, feng shui, color, and sounds. It's being aware of everything, and how the body reacts in a space. And that's what we try to do with our projects. We try to lead but are not didactic. Total Design is showing people that a home office in a bedroom is not a good thing to have, or that an overscaled table in a small place might be great for them. Challenging convention is a large part of what we do. ■

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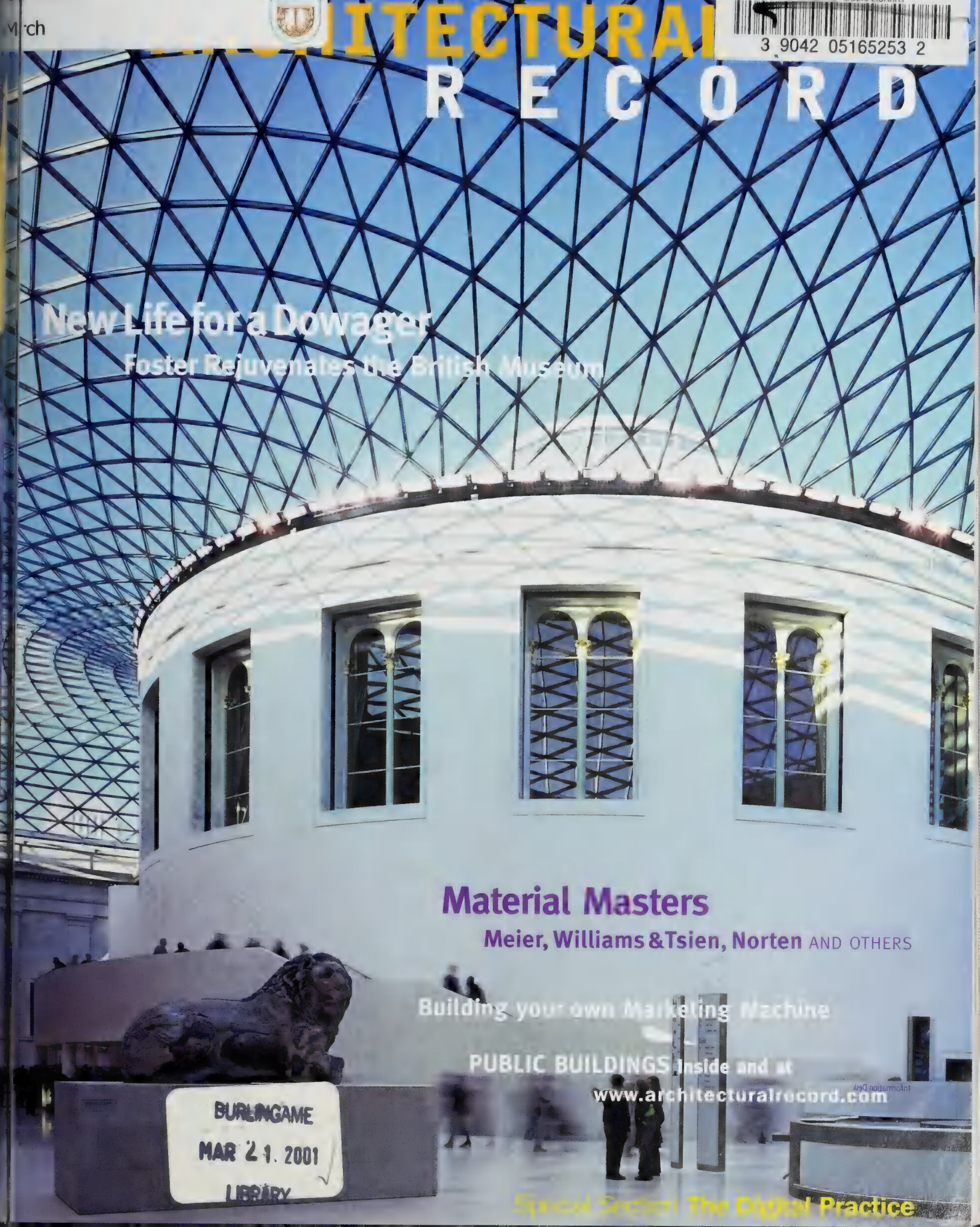
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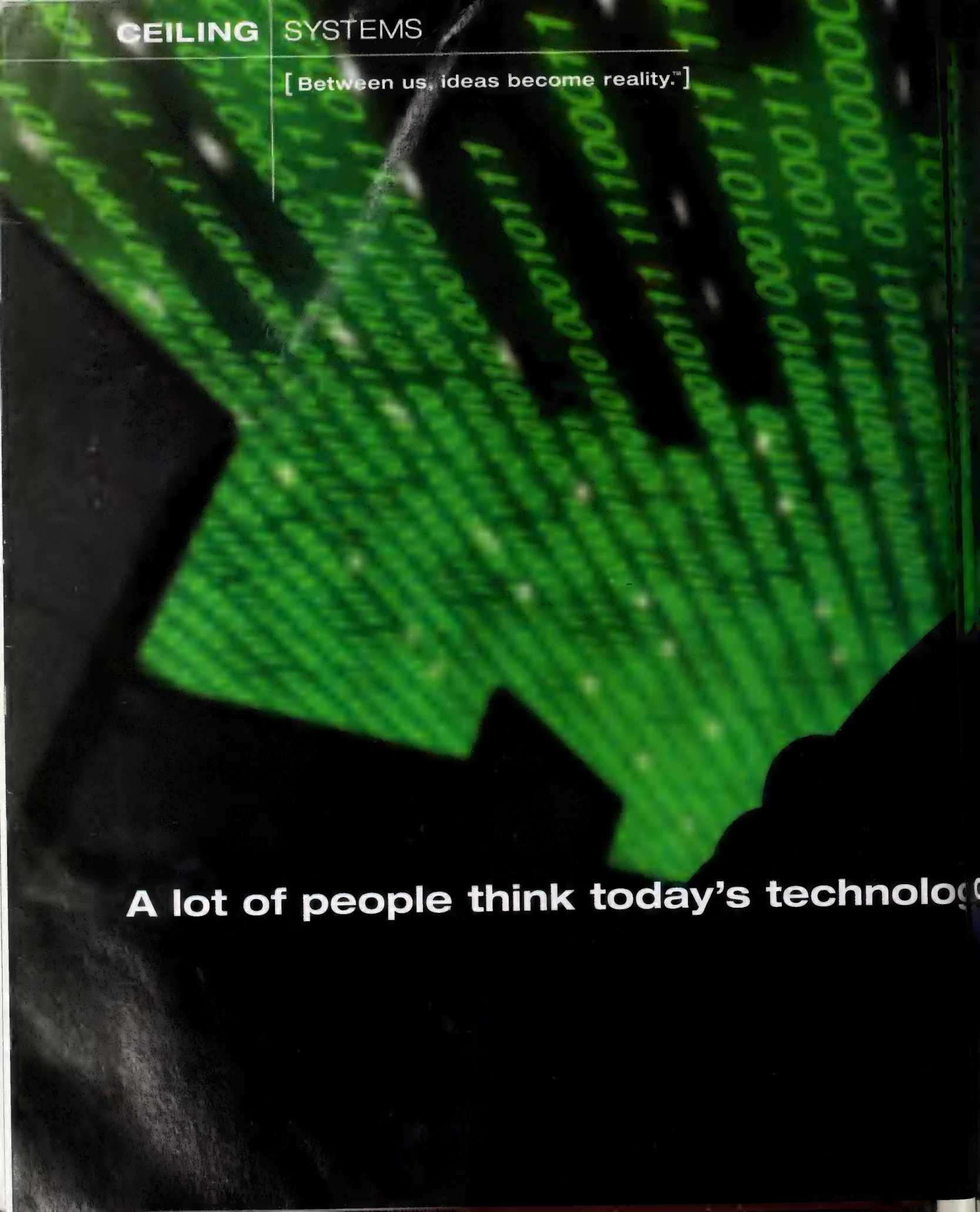
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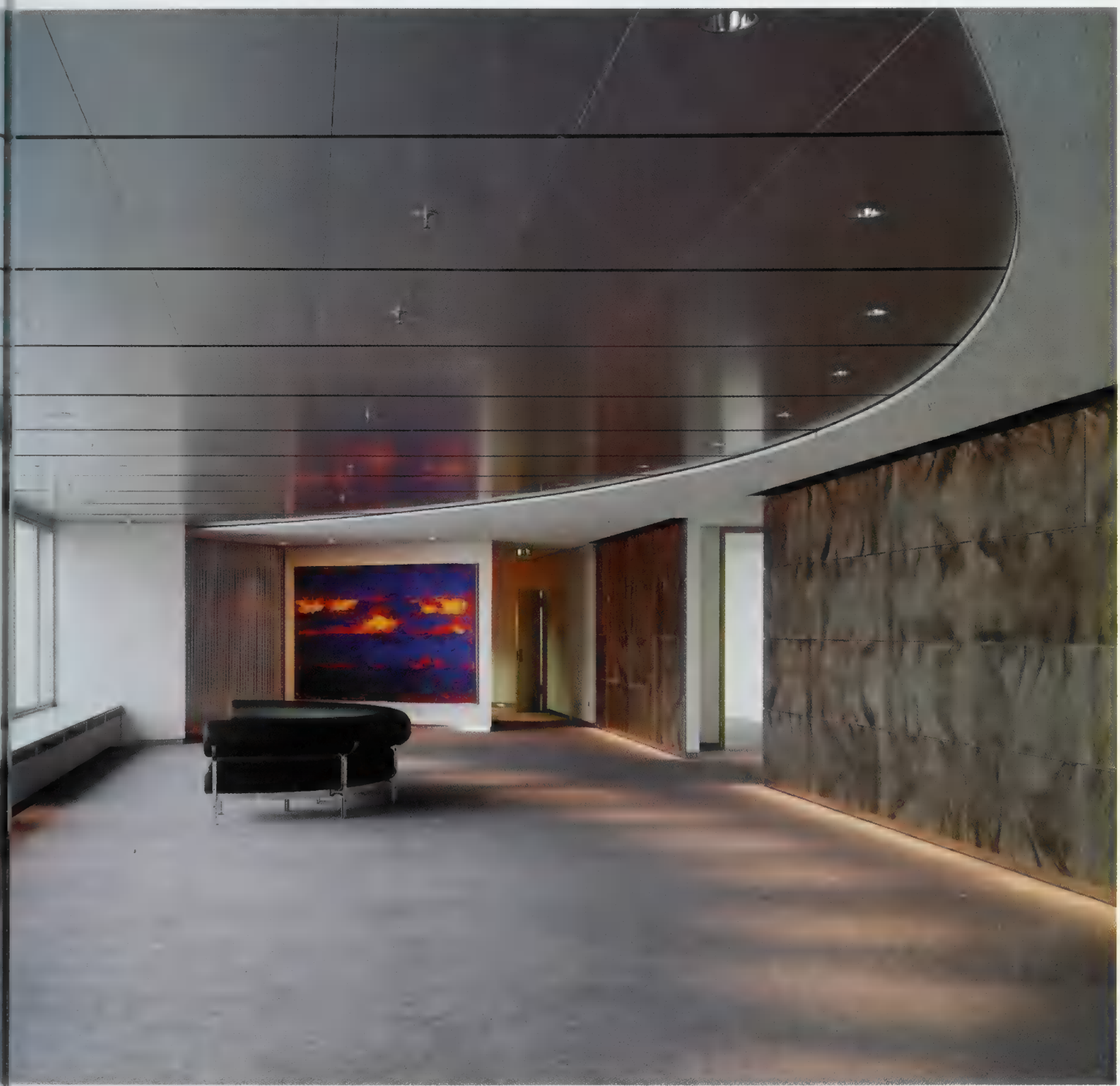


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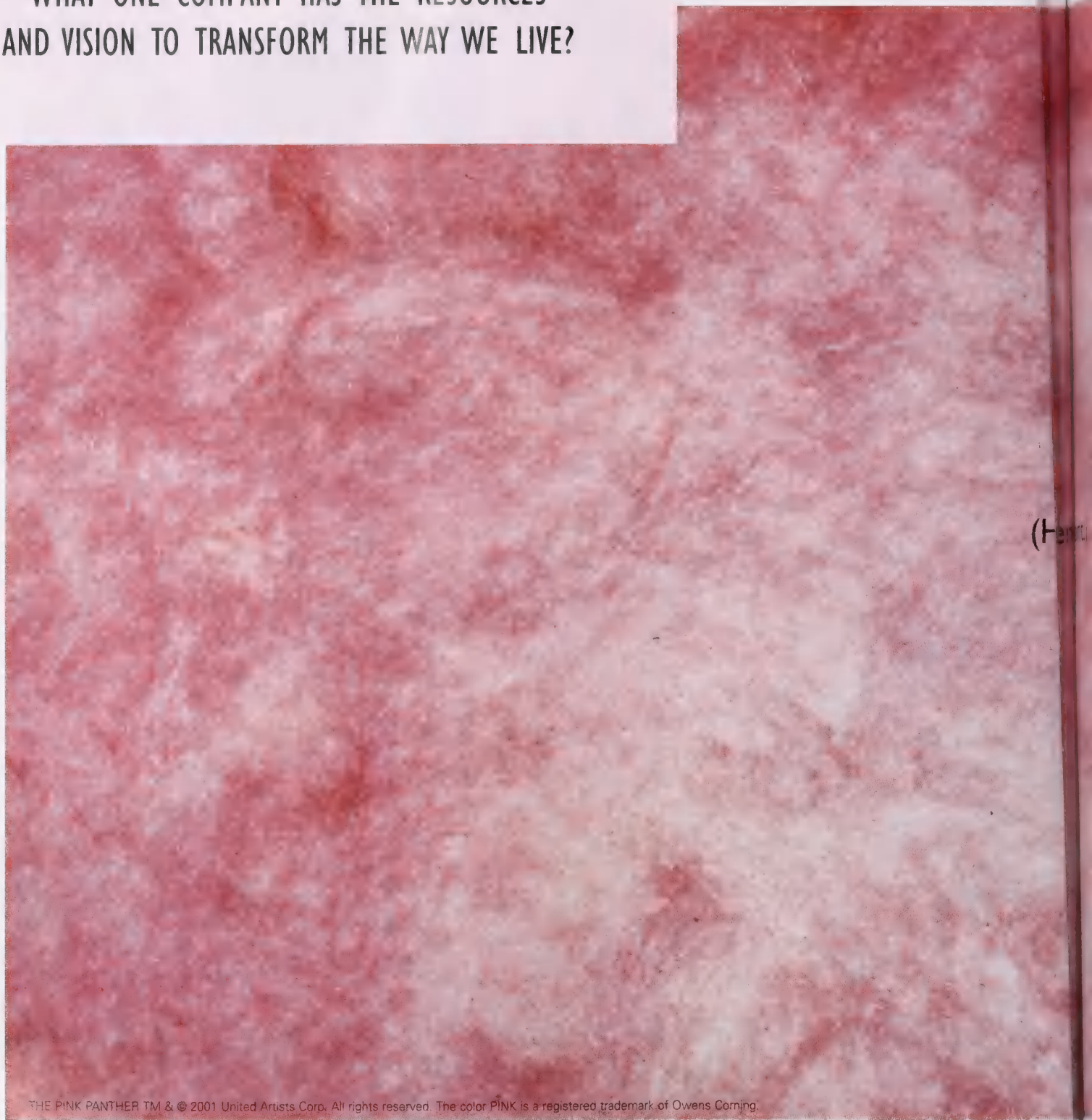
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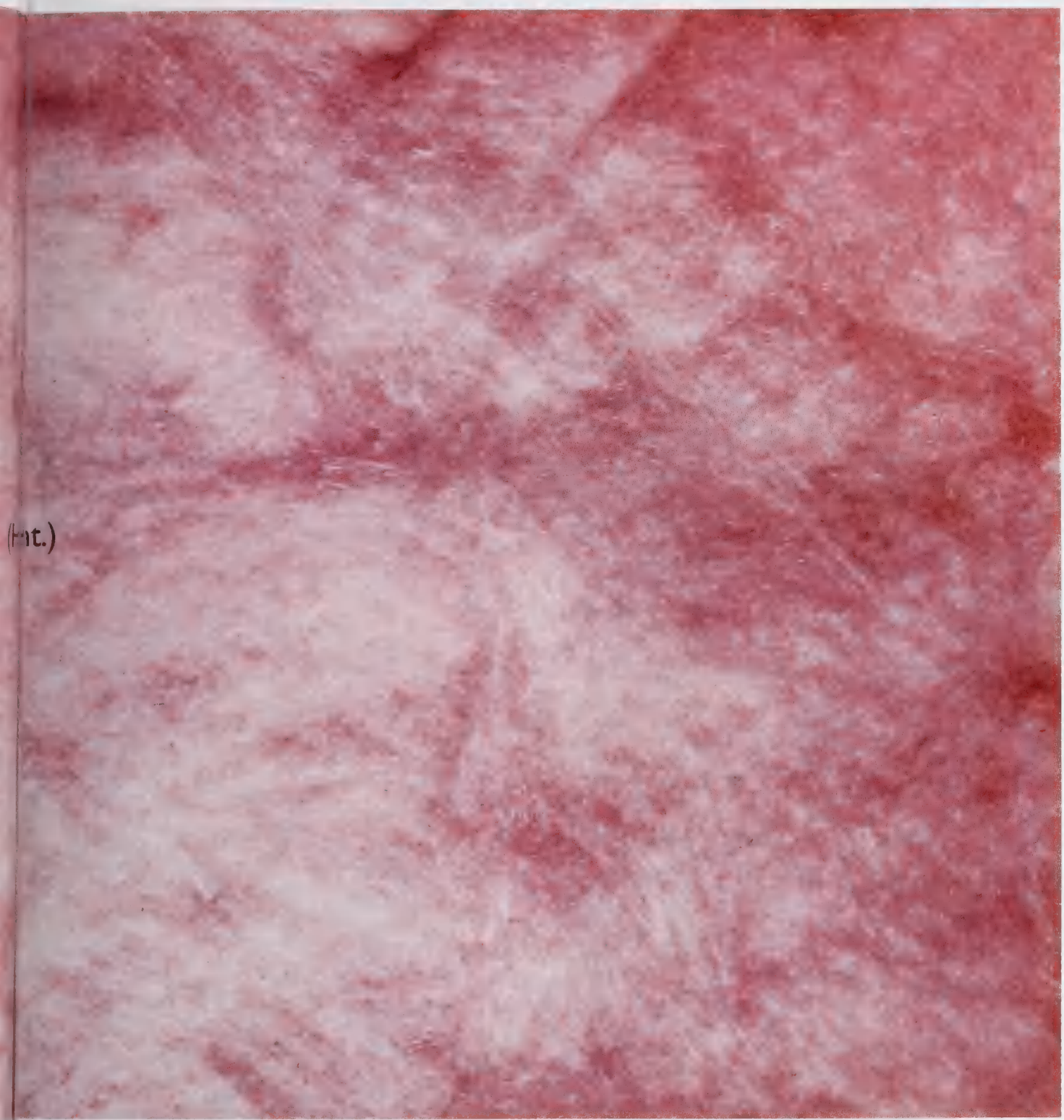
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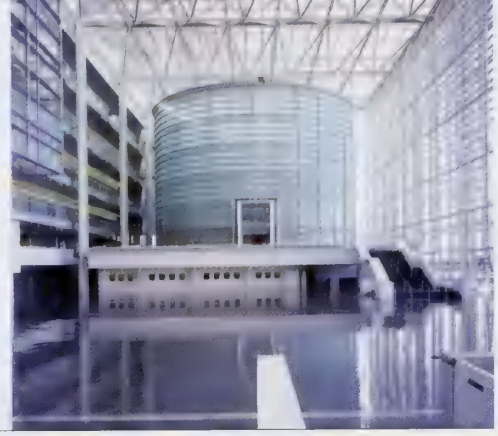
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On the Cover: *The British Museum, by Foster & Partners, Photograph by Nigel Young*
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New: For additional public building projects go to Building Types Study at ***www.architecturalrecord.com.*** The monthly expanded Web BTS features project descriptions, photographs, drawings, statistics, and links to people and products.

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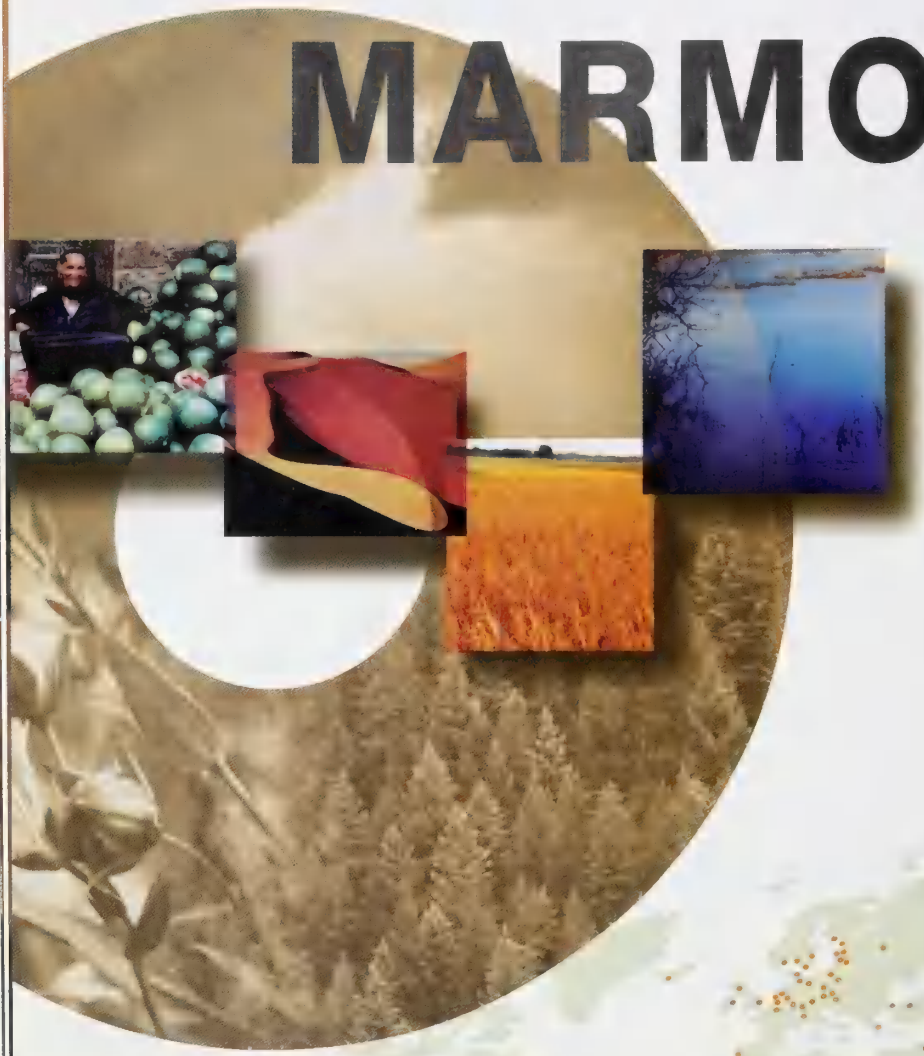
The AIA/ARCHITECTURAL RECORD CONTINUING-EDUCATION OPPORTUNITY *is* **"A Brilliant Shell Game at the British Museum"** *[page 149]*

WWW * You can find these stories at ***www.architecturalrecord.com,*** including expanded coverage of the this month's featured projects.

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Bratislava, Slovakia	14	June
Brussels, Belgium	15	February
Budapest, Hungary	23	March
Buenos Aires, Argentina	12	June
Cairo, Egypt	6	March
Chicago, USA	18	June
Coimbra, Portugal	8	February
Cologne, Germany	5	March
Copenhagen, Denmark	6	March
Dallas, USA	21	May
Den Bosch, The Netherlands	21	February
Detroit, USA	14	May
Dubai, UAE	11	April
Dublin, Ireland	1	February
Edinburgh, UK	15	February
Fátima, Portugal	13	February
Frankfurt, Germany	12	March
Gothenburg, Sweden	6	March
Guangzhou, China	3	April
Hamburg, Germany	26	February
Helsinki, Finland	6	March
Istanbul, Turkey	18	April
Kaunas, Lithuania	25	April
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Lisbon, Portugal	15	February
London, UK	12	February
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Mexico City, Mexico	24	May
Montreal, Canada	7	May
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Reykjavik, Iceland	31	March
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Shanghai, China	30	March
Stockholm, Sweden	6	March
Sydney, Australia	5	March
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Toronto, Canada	3	May
Turin, Italy	11	May
Vancouver, Canada	30	April
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Warsaw, Poland	26	April
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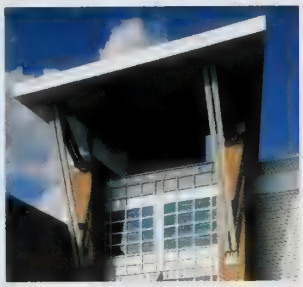
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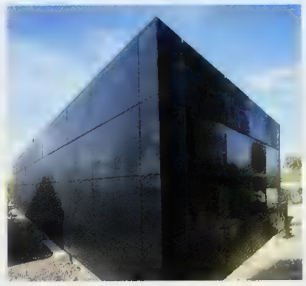




Looking for public building projects? Check out selected web-only public building projects in addition to projects from *Record's* March BTS. Get descriptions, plans, specs, photos, links to people and products involved. Starting with the January 2001 issue, every month's BTS will have additional projects on the web.

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Find key people and products involved in March projects including **Richard Meier's Phoenix Courthouse: special web-only feature on the innovative water-cooled atrium design.** Lord Norman Foster's British Museum courtyard project, with tech extras about the design for the giant skylight, and more...

Interviews



An exclusive interview with the materials-oriented designers **Tod Williams and Billie Tsien**, as well as a profile of Richard Saul Wurman. Plus many other interviews with leading architects.

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See animations of light bridges in a German office building by Thomas Emde, plus moving images of the Tribeca Grand Hotel's dazzling interior lighting and more...

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Team IMI helps turn steel into brick and block on a Pittsburgh waterfront.

Every construction project requires teamwork. Not only among the architects, developers and trades, but especially between the contractors, craftworkers and consultants. Team IMI is the union of these three partners. Our goal is to ensure that you always have enough of the world-class union craftworkers and contractors you need to complete your project—no matter how big, how elaborate or how visionary it may be. Our promise is that we do every job with a sense of pride and accomplishment unmatched in the masonry industry.



Team IMI's involvement with The Waterfront, a $300-million, 265-acre retail, residential, commercial and entertainment complex located on the site of a former USX steel fabricating plant six miles from downtown Pittsburgh, began when Continental Real Estate, Columbus, Ohio, the project's developer, and David Benjamin Meleca, the architect, started site work. Team IMI helped by first offering solutions to Continental's masonry construction needs. But since Continental was an out-of-town developer, Team IMI's most valuable assistance came in identifying and reviewing the work of local union contractors who might be appropriate for a project of this size. And after visiting the IMI training center, Continental knew that quality workmanship wouldn't be a problem on their project. Team IMI's staff of architects, engineers and construction consultants was also able to provide a comprehensive package of masonry-related technical services. The final result? A project fully staffed with world-class union masonry craftworkers.



Of course, The Waterfront in Pittsburgh is just one example of how Team IMI is making a real impact in the masonry construction industry. Thanks to comprehensive training programs at IMI's National Training Center and around the country at satellite centers, Team IMI is helping to meet the need for skilled union craftworkers and contractors nationwide. Team IMI mobile training units also make it possible to offer specialized training on your job site. And our technical expertise in codes, specifications and design trouble-shooting delivers the final piece of the puzzle. In short, with Team IMI, you're assured that the world's best union masonry craftworkers and contractors will always be available for your project, ensuring quality and imagination every step of the way. **To find out more, call 1-800-IMI-0988 or visit www.imiweb.org.**

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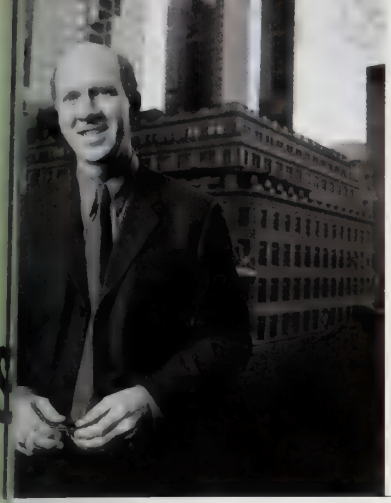
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Editorial

By Robert Ivy, FAIA

Unlike a book, a magazine should continue to evolve in responsive and interactive ways. Here is one consistent message we've heard: You want more information about a variety of good projects, not just the work of the stars. One group of readers has continually asked for something special. Newer architects, those in the process of career development, have asked for a place in our publication universe that would help them develop their careers and build community. With the March issue of ARCHITECTURAL RECORD, *we offer something new and substantial for both requests.*

Our answer, ***archrecord2****, capitalizes on the strength of the whole publication, print and Web. Flip to page 47 of this magazine to see it in print, then switch on your laptops, log on to architecturalrecord.com, and witness its digital incarnation. As you surf down the homepage, you'll encounter* ***archrecord2: for the emerging architect****, our cool (or hot) new mini-magazine for young architects (we refer to them as "emerging," since even octogenarian architects can fiercely cling to young attitudes, and they're welcome here). This tremendous pool of plugged-in talent finds itself busier than ever before, no longer relegated to menial tasks, but specifying, drawing, meeting with clients, and collaborating with consultants.*

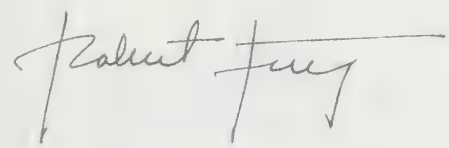
archrecord2 *gives you a place to stand and gain perspective on your own architectural scene. Each month, you'll find stories and images from other young architects in a more casual, conversational tone, grouped into four categories: live, work, design, and talk. In "Design," we'll show you previously unpublished or unrealized projects, since younger practitioners have good ideas but limited opportunities to build. We'll share news that can advance your career, including profiles of other emerging architects and their paths to success. Just for fun, we'll take you into the apartments and workspaces of your peers, saying, "Show me." In archrecord2 you can illustrate how you live and work. And we'll launch a conversation area, where you can share your ideas on a provocative topic.*

More projects. *To answer your request for more information, in January we launched a Web-based, expanded Building Types Study. You're familiar with the original print version. For half a century, you have relied on* ARCHITECTURAL RECORD *to help you compare examples of specific types of projects, whether schools, hospitals, or museums. Using this pragmatic, analytical tool, architects can learn how other designers and clients are solving similar problems. Print limited us, however, to a few selections each month.*

In 2001 you can find up to 10 more projects of equal quality on our Web site. For example, in February, although we focused on smaller schools in print, we reviewed numerous larger buildings in preparation for the issue. Both small and large schools show up on our expanded Building Types Study on the Web. Our commitment to the quality of the selected work, however, remains invariable; none is second tier. All projects, whether in print or online, must adhere to the rigorous standards as juried by our editorial staff.

By building up a database of projects over time, we expect to become the authoritative resource—a place where people will come to find more about specific building types. The audience expands and changes as well, since in addition to our normal readership, clients will refer to our Building Types Study on the Web as a comprehensive overview of projects and the firms that produce them. The broadened section also serves as a teaching tool for architects at all stages of their development, emerging or emeritus.

Throughout our careers, whether we are 27 or 72, we love to learn. Our publication, be it the magazine that you hold in your hand or the Web site that you hook into during lunch, mirrors your interests—to keep on learning, to acquire more information, and to grow in our careers, as fast as an idea. This is our commitment to you: at ARCHITECTURAL RECORD, *we're more than a magazine.*





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CIRCLE 11 ON INQUIRY CARD

Letters

DEPARTMENTS

Opposing views on the housing crisis

James Russell's articles on the politics of housing policy [DECEMBER 2000, "Housing Subsidies: America's Misplaced Priorities," page 132] are right on target. In particular, his point about the inequitable subsidy system we've created is correct: Massive, indirect (but real) subsidies to (primarily upper-income) homeowners via the tax system is unfair given the meager direct subsidies for the lower-income households that need it most.

The government's direct appropriations for low-income housing (now about $25 billion a year) should be raised to match the amount of the homeowner deduction (now three to four times the figure spent on direct subsidies). Or, set a reasonable cap on the amount homeowners can deduct and assign these additional tax revenues to building and renovating low-income housing.

—Chester Hartman, Executive Director of Poverty & Race Research Action Council Washington, D.C.

James Russell makes a serious misrepresentation in his article about housing subsidies. At the bottom of pages 134–135, he states that a "family of four earning $200,000 a year owns a $650,000 home" and that as a result of deductions for mortgage interest, equity loan interest, and property taxes, there is a "total annual federal housing subsidy of $15,072."

This is contrasted with a "single mother with two children holding Section 8 vouchers and earning $16,000 annually in a two-bedroom apartment at HUD fair-market monthly rent of $900" who ends up receiving HUD voucher payments of $530 per month for a "total annual federal housing subsidy: $6,360."

It is a travesty of both logic and justice to equate a reduction in the taxes one pays on earnings from productive work with the unearned wealth-transfer payments received by the occupants of HUD housing. The clear implication here is that all earnings are the property of the State and that being allowed to retain a portion of one's income is equivalent to receiving a handout (i.e., a "subsidy"). I emphatically disagree with this. These two activities are not merely different—they are diametrically opposed. It is the taxes taken from the group of productive citizens that makes the subsidies to the second group possible, and I find the attempt to obfuscate this fact extremely offensive.

—C. Jeffery Small Mercer Island, Wash.

I fail to grasp why James Russell would tarnish the logic of his article by equating tax deductions for homeowners with federal housing subsidies and direct aid to the working poor. Contrary to the intimations of the article that "subsidies go to the affluent," homeownership in America crosses all economic strata, with the majority of homeowners being middle-class, working Americans. Their tax deductions can hardly be equated with a federal aid program; such deductions are not tax credits and simply reduce the



otal amount of federal taxes paid n income that has already been arned, rather than being a direct ayment through a government pro-ram like a Section 8 voucher.

The helpful chart supposedly lustrating the way the government inequally distributes housing subsi-lies needed clarification, as it tried to paint an untrue picture of federal government favoritism toward higher-ncome homeowners. While renters eceive no tax deductions for their payments, neither do they pay the often-high federal and state taxes and local property taxes to which homeowners and landlords are sub-ject. Further, in his illustration, the tax saved by the "affluent" is 7.536% of income, whereas the direct payment received via a Section 8 voucher is 39.75% of income earned. Also, why is it assumed that the "affluent" have a $40,000 home-equity loan?

I also take issue with Russell's subtle intimations of class warfare where the tax breaks of the home-owning "rich" siphon money directly out of the hands of the working poor by limiting the amount of money available to HUD for more Section 8 vouchers. Adding to the middle-class tax burden by removing this small tax relief for homeowners is not the answer to the housing sub-sidy crisis. Instead, why not try to partner with those states where the housing crisis is at its worst to match federal housing funds and provide more vouchers?
—David F. Schultz, AIA, NCARB
Via E-mail

James S. Russell replies: If the government selectively forgives a tax liability (in this case, only for those who buy homes), it is a subsidy as surely as if it sent a check every month. Mr. Small's most disturbing presumption is that anyone who buys a house is productive, while renters and others who live in HUD housing are not.

Mr. Schultz questions why "the affluent" would have a $40,000 home-equity loan. The assumption was made for calculating the value of the homeowner subsidy and demonstrating the value to the homeowner of the deductibility of such interest. The complexity of the tax code is such that with only a few changes in circumstances, RECORD's "example" family could benefit more or considerably less from federal tax deductions. Also, the article did not say that "the tax breaks of the home-owning rich siphon money directly out of the hands of the working poor," but only noted that if the nation can afford to be so generous to homeowners, it can afford to aid those who are really in need.

Growing pains

Smart Growth is upon us [FEBRUARY 2001, page 51]. The question is, at what price? Curtailing supply in both rural and urban areas has predictable consequences. Any idea that it is cheaper is nonsense. Cheap housing is the outrider of sprawl.

Notwithstanding the rhetoric for affordable housing, Smart Growth is, in my experience, another clearance, both an enclosure act and urban renewal all in one—sending the poor where? The blue-collared homo sapiens deserve equal protection with the white-faced marsh mouse.
—John M. Campbell, AIA
via E-mail

Corrections

In our DECEMBER 2000 issue [News, page 36] we did not acknowledge Spector Group, the architect of record for the new U.S. Courthouse in Central Islip, N.Y. In the JANUARY 2001 issue [page 131] we failed to mention that the First Step Prototype housing shelter for the homeless was photographed at the Van Alen Institute, New York City, in fall 2000. In the same issue, ["Lighting and Building Technology," page 62], there was no mention of DHA Design of London, the lighting consultants for the Wellcome Wing in London's Science Museum. In the FEBRUARY 2001 issue, Richard Johnson should have been credited as photographer of the HoneyHouse and BarnHouse [pages 98–101], designed by M. Blackwell.

19 *hurricanes**



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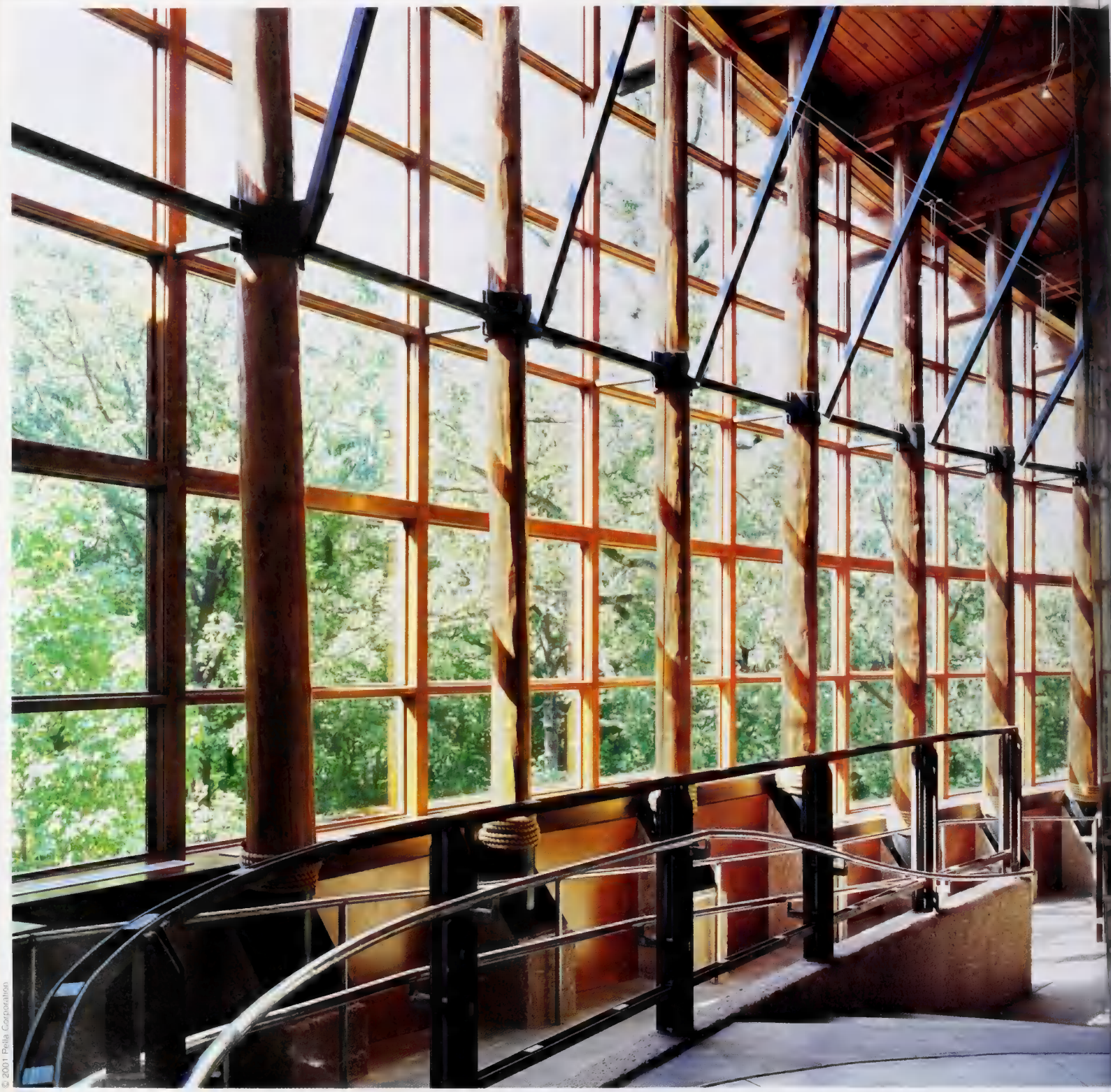
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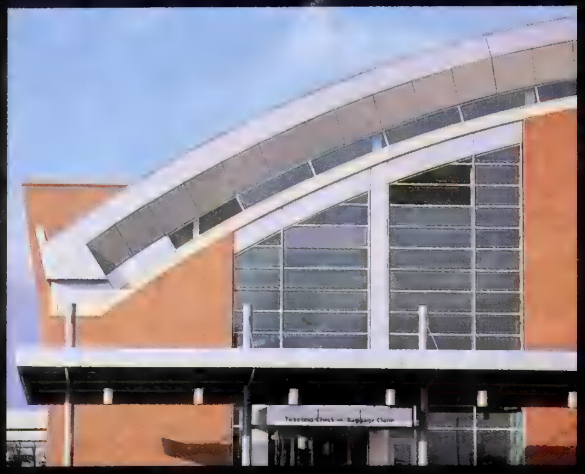
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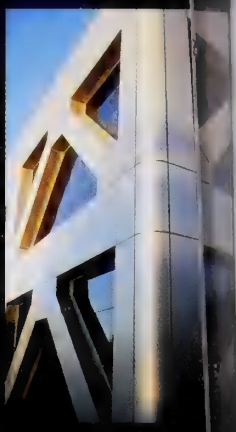
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CIRCLE 13 ON INQUIRY CARD





A Panel Discussion



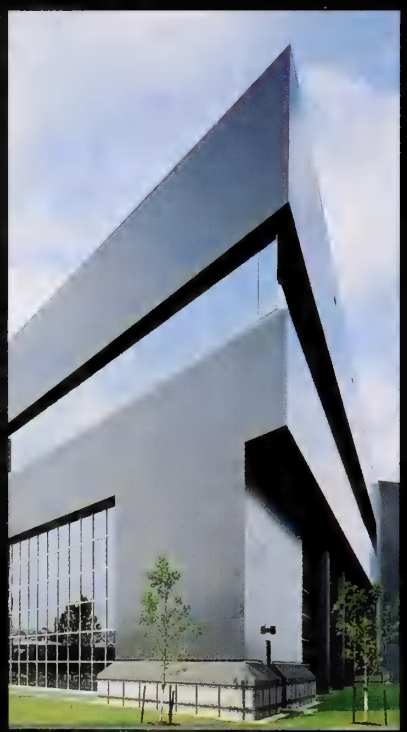
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CIRCLE 14 ON INQUIRY CARD

Record News

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Green homes for Chicago p. 36

With or without Met, Lincoln Center plans $1.5 billion renovation



Lincoln Center for the Performing Arts includes (both photos, from left) the New York State Theater, the Met, and Avery Fisher Hall.

New York's Lincoln Center for the Performing Arts, poised for a $1.5 billion reconstruction and renovation of its 1960s buildings, faces a major hurdle getting its multiple constituencies to agree on a planning process. Construction may begin in early 2002, but one of Lincoln Center's 12 arts groups, the Metropolitan Opera, withdrew from the project in late January, claiming it had an inadequate role in the process thus far.

A master plan for the 16-acre campus is being drafted by New York's Beyer Blinder Belle Architects & Planners and Cooper, Robertson & Partners, and is scheduled for release in June. Architects have not been named for the eventual construction, but the work will likely include renovations of Avery Fisher Hall (home of the New York Philharmonic) and New York State Theater, and possible additions to the Juilliard School of Music, Alice Tully Hall, and other buildings.

A new facility for the New York City Opera, which shares the New York State Theater with the New York City Ballet, may be planned for Damrosch Park, immediately behind the State Theater. City Opera claims its current facility, built for ballet, is too small and lacks appropriate acoustics. The Met Opera would not get a new home.

In a letter to Lincoln Center officials, Joseph Volpe, general manager of the Met Opera, wrote, "Our input has been disregarded and actions have been taken by Lincoln Center without our consent."

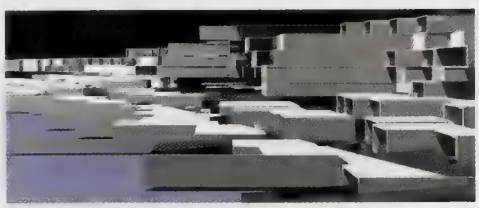
New York City has committed $240 million for the project. *John E. Czarnecki, Assoc. AIA*

Groundbreaking takes place for ambitious JVC Center in Guadalajara

With a cast of all-star architects in attendance, groundbreaking took place on February 4 for the $460 million JVC Culture, Convention and Business Center in Guadalajara, Mexico [JUNE 1999, page 120]. The brainchild of businessman Jorge Vergara, the mixed-use development will feature buildings by 11 internationally recognized architectural firms, most of whom have never built in Mexico.

The groundbreaking—attended by government officials and the international press—was clearly intended to signal that plans are moving forward. Since RECORD profiled the project in 1999, the master plan and individual buildings have undergone some changes. Steven Holl, who was to design a hotel, has dropped out, while Zaha Hadid has come on board to design the hotel and Teodoro González de León will design a clubhouse.

Construction is scheduled to begin at the end of this year on the first group of buildings: a 1.6-million-square-foot convention center by Enrique Norten and Bernardo Gómez-Pimienta of TEN Arquitectos; a *palenque,* or cockfighting ring, by Thom Mayne of Morphosis; and a shopping-and-entertainment center by Wolf Prix and Helmut Swiczinsky of Coop Himmelblau. Vergara hopes to open the convention center in 2003. Other projects in the development will be a university by Daniel Libeskind, an office complex by Jean Nouvel, an art museum by Toyo Ito, a children's museum by Philip Johnson, an amphitheater by Tod Williams and Billie Tsien, and fairgrounds by Carmen Pinós.



A hotel by Zaha Hadid is part of the JVC Center.

Set on the outskirts of Guadalajara, the JVC Center will, if all goes well, draw international attention to Mexico's second-largest city. *Clifford Pearson*

CHILDS AND MEIER GAIN YALE COMMISSIONS

Yale University has named architects for two campus arts projects. David M. Childs, FAIA, senior design partner at Skidmore, Owings and Merrill, New York, will lead the renovation of the Art and Architecture (A + A) Building [FEBRUARY 2001, page 36] designed by Paul Rudolph. Childs was a student under Rudolph at Yale.

Richard Meier, FAIA, will design a new 65,000-square-foot center, adjacent to the A + A Building, for the art history department and arts library.

Both projects, scheduled to begin construction in fall 2002, should be complete in 2004. *Kevin Lerner and JEC*

OFF THE RECORD

Maci [redacted] of Atlanta will design a 75,000-square-foot campus center for Wellesley College.

[redacted] introduced legislation for a $2.5 million, 1,200-square-foot educational and high-tech multimedia center near the Vietnam Veterans Memorial in Washington, D.C. The "temporary" structure will be funded completely through private donations.

Fundraising has begun for construction of a Harlem museum in honor of Malcolm [redacted].

Cornell University has announced four finalists for its College of Architecture, Art and Planning building: [redacted] Architects, Morph[redacted], Tod W[redacted] Billie [redacted], and Peter [redacted]umthor. Presentations to a jury will be April 18 and 19.

Philip Johnson, 94, is working on the renovation of an 88-year-old former geological museum, to reopen in summer 2002 as an art gallery, at the University of Wisconsin–Milwaukee.

Aaron Betsky, 43, is leaving his post as curator of architecture, design, and digital products at the San Francisco Museum of Modern Art to be director of the Netherlands Architecture Institute in Rotterdam.

For Chicago's Grant Park, Santiago Calatrava is designing a pedestrian connection from Buckingham Fountain to Lake Michigan.

Architect Mi[redacted] Maltzan of Los Angeles, designer Bruce Mau of Toronto, and landscape and interior designer Peti[redacted] of Amsterdam are collaborating [redacted] $25 million expansion and rec[redacted]tion of UCLA's Hammer Museu[redacted]

Gensler will design the interio[redacted] the New York Times tower by Renzo [redacted] [NOVEMBER 2000, page 33].

No small world: New Disney park opens





California's Adventure (above) and Downtown Disney (left) have open[ed]

California Adventure, a 55-acre, $1.4 billion complex, opened February 8 on a former surface parking lot adjacent to Disneyland in Anaheim, Calif. Unlike the original 45-year-old Disneyland, though, California Adventure's attractions have a strictly Californian theme, and the park is half the size of Disneyland, with 25 features as compared to the original park's 60.

Entrances to California Adventure and Disneyland face each other on a pedestrian plaza adjacent to the Downtown Disney area—a retail/entertainment district linking the theme parks to parking and the Disneyland Hotel.

The complex—with Disneyland, California Adventure, Downtown Disney, the Disneyland Hotel, Paradise Pier Hotel, and the new Grand Californian Hotel—is now billed as the Disneyland Resort. The intent is to offer a multi-day destination resort for visitors, in the same vein as Disney Worl[d] in Florida.

Disney Imagineers led the design of the California Adventure park and Downtown Disney, working with the master plan develope[d] by Jacquelin Robertson, FAIA, of Cooper Robertson. Elkus/Manfred Architects designed the exteriors [of] the Downtown Disney component[s]. The Grand Californian was completed by Urban Design Group of Denver. *JEC*



New architect and design for Chicago's Block 37

In the heart of Chicago's Loop, a three-acre chunk of real estate lies, quite improbably, empty.

The site, called Block 37 and located between Marshall Field's flagship State Street store and the mighty Richard J. Daley Center court building and plaza, was cleared in 1989 and 1990 for a Helmut Jahn-designed twin-tower office and retail complex. The office market subsequently collapsed, killing the project and leaving the block empty through the 1990s. FJV Venture, the same partnership that attempted to develop Block 37 a decade ago, is trying again, now touting its second design for the site in less than a year.

In April 2000, FJV unveiled a design by New York's Kohn Pedersen Fox (KPF) for a mixed-use development on Block 37. Its main features were a Lord & Taylor department store, a Marriott Suites Hotel, and more than 300 condominiums. But the plan, featuring a massive retail base clad in faux fieldstone, was roundly criticized for resembling a suburban shopping mall. KPF was replaced by Solomon Cordwell Buenz (SCB) of Chicago.

SCB's design (above) has the same program as the KPF scheme, but rearranged in a site-specific, Modernist composition of simple shapes accentuated by dynamic, sculptural forms. The low-rise retail portion of the project, still fronting State Street, has more storefront windows than the KPF scheme did. The mid-rise hotel is L-shaped and shifted to Block 37's southwest corner, framing the urban room of the Daley Center plaza. Above its southern wing soars a 66-story condominium tower with a swooping glass curve that strikes up a powerful dialogue with the Daley Center. As in the KPF proposal, a public roof garden tops the department store, but it now is more accessible, with two banks of elevators (rather than KPF's one) connecting it to the street.

With the economy faltering, however, the big question is whether history will repeat itself and Block 37 will remain empty. The project, with an estimated to cost of at least $250 million, is slated for a fall groundbreaking. *Blair Kamin*

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OFF THE RECORD

Ben van Berkel and [illegible] of Amsterdam's UN Studio have won the competition for the expansion and renovation of the Wadsworth Atheneum in Hartford, Conn. Other competition finalists were [illegible] of World Architecture, [illegible], and [illegible].

Ohio State University plans to renovate or replace 51 of its buildings. [illegible] Predock, in association with Moody/Nolan, was selected for the $96 million Larkins Hall Recreation Center.

Finalists in the "Big Shoulders, Small Schools" competition to design two new Chicago public schools are [illegible], Hyde, [illegible] Koning Eizenberg Architecture, [illegible] Scogin Merrill [illegible], and Smith-Miller + Ha[illegible]. Winners will be announced in March.

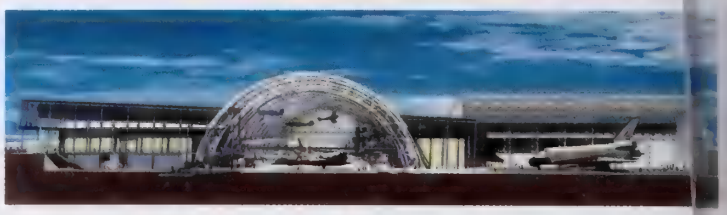
Kazuyo [illegible] and [illegible] of the Tokyo-based firm SANAA will design a Center for Glass for the Toledo Museum of Art.

The competition shortlist for an expansion of the Virginia Museum of Fine Arts in Richmond includes Hardy Holzman Pfeiffer Associates, Machado and Silvetti Associates, Moshe Safdie and Associates, Polshek Partnership Architects, Rick Mather Architects, and Smith-Miller + Hawkinson Architects.

Toronto's Kirkor Architects & Planners is designing a $200 million, 60-story tower for downtown Toronto that will include a Ritz-Carlton Hotel and condominiums. Construction will begin by early 2002.

The University of Michigan has [illegible] Barton-Phelps & Associates, Los Angeles, with SWP&P Architects, Chicago, for a new building for the Gerald R. Ford School of Public Policy.

HOK designs Air & Space museum annex



The world's largest architectural firm is completing an annex to the world's most visited museum.

Hellmuth, Obata + Kassabaum (HOK) has designed the National Air and Space Museum's $250 million annex, called the Steven F. Udvar-Hazy Center, at Dulles International Airport in northern Virginia. Site preparations began last October, and building construction will start within the next few months. The new museum is scheduled to debut in December 2003 on the 100th anniversary of the Wright brothers' first powered flight.

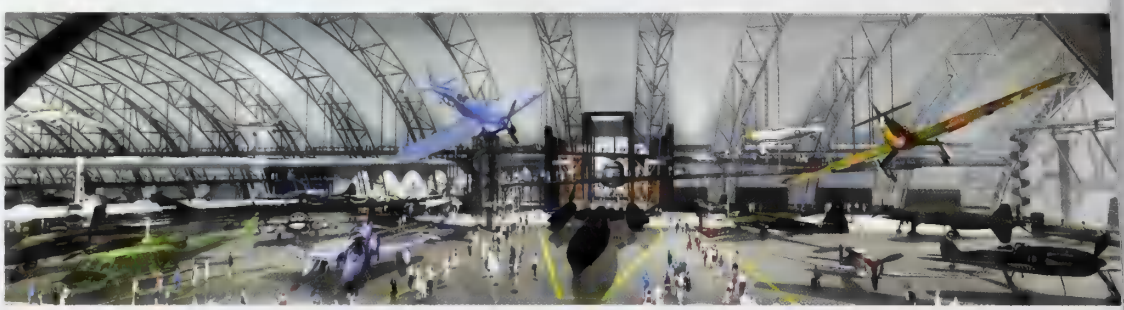
The 760,000-square-foot building will showcase the space shuttle *Enterprise* and more than 300 other aircraft and space artifacts that cannot fit into the flagship museum on Washington's national Mall. A trio of hangars will also display the once super-secret SR-71 Blackbird and the Hiroshima-bombing B-29 Superfortress *Enola Gay*. The 10-story main exhibition hangar will be more than two football fields long.

"Its sheer size is awesome, a sort of 'gee whiz' space," says Bill Hellmuth, design director of HOK's Washington, D.C., office, which also created the original museum. "It's modeled after the Zeppelin hangars in World War II."

Visitors will enter the museum at an upper level similar to an airport's departure area. A long, fuselage-like hallway leads them into the main hangar and along a catwalk for a "nose-to-nose" vie[illegible] aircraft suspended from the arc[illegible] ceiling's three-dimensional trian[illegible]lar trusses. Ramps will lead to th[illegible] spaceship hangar and to a smal[illegible] hangar, where spectators can wa[illegible] technicians restore airplanes.

The steel, concrete, and enameled-metal facility also will feature restaurants, gift shops, ar[illegible] Imax theater, archives, classroom[illegible] offices, and an observation tower that overlooks Dulles' runways an[illegible] boasts an air-traffic-control exhibi[illegible]

The only Smithsonian museum built entirely with private funds, this center is named after Udvar-Hazy, founder of International Lease Finance Corp., who donated $60 millio[illegible] toward its realization. *Barbara Saffi[illegible]*

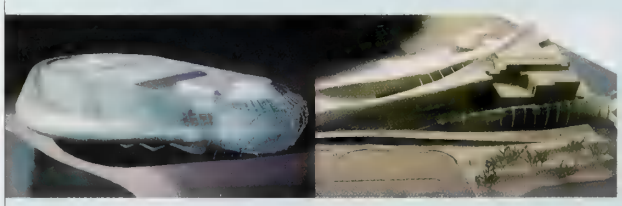


The Steven F. Udvar-Hazy Center, near Dulles Airport, will feature the space shuttle *Enterprise* (top photo, right).

Eisenman and Tschumi quit Carnegie Science Center competition

As reported January 31 on *architecturalrecord.com*, architects Peter Eisenman, FAIA, and Bernard Tschumi, AIA, withdrew from a competition for an addition to the Carnegie Science Center in Pittsburgh [FEBRUARY 2001, page 32] after learning that the other three competitors were given more time and money to respond to questions. Seddon Bennington, director of the Carnegie Science Center, apologized for the situation.

"What has happened is a shortcoming in my handling of the process," Bennington told RECORD. Eisenman (competition entry in right photo) and Tschumi (competition entry in left photo) were competing against Daniel Libeskind, Jean Nouvel, and UN Studio (Ben van Berkel). Each received $30,000 for his entry. In mid-January, Bennington said he notified Libeskind, Nouvel, and van Berkel that they would receive an additional $20,000 for more work in response to specific questions. Eisenman and Tschumi were not given the extra $20,000, nor were they notified that they were eliminated. In the next two weeks, Eisenman and Tschumi learned through other sources, not the Science Center, that Libeskind, Nouvel, and van Berkel were given additional money and instructions to proceed. Without a notice of elimination, Eisenman and Tschumi quit. *JEC*







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A group of architects developed conceptual designs (left) for renovation of the Martin Luther King Jr. Memorial Library (above) in Washington, D.C.

Volunteer architects examine ways to save Mies' King Library, making it user-friendly

A group of architects in Washington, D.C., has volunteered to develop options to save the city's flagship library in the heart of downtown. The Martin Luther King Jr. Memorial Library, one of Ludwig Mies van der Rohe's last buildings and his only building in Washington, is ill-serving city residents.

Opened in 1972, the library never garnered much popular affection and does not have an official landmark status. Assailed as dank, cavernous, and inefficient, the library has heating and cooling systems that often malfunction, and the lighting is poor. Acknowledging the building's shortcomings, Kent Cooper, FAIA, leader of the volunteer team that examined the building, admits, "It's not one of Mies' better buildings, but it's the Mies we've got."

Library administrators have been considering options for the building since the resurgence of the general downtown core began several years ago. The team of architects, working through the local AIA chapter, explored ways to make the library more serviceable and attractive. Their study, which Cooper termed "a series of investigations and interventions," advocates preservation of the current landmark, albeit with significant alterations. Most prominent would be recoating the black steel structure with a light-colored metallic finish and reglazing the tinted glass with clear low-e thermal glass. A fifth floor, originally omitted for budgetary reasons, would be completed, with a rooftop terrace as well as additional library space. On the interior, central portions of the third and fourth floors would be removed for a tall reading room on the second floor.

Cooper anticipates possible resistance from strict Miesians but maintains that the proposals are consistent with other examples of the architect's work, and they are simply concepts. "We tried to have this all make sense from the standpoint of being faithful to the original while being more user- and staff-friendly," Cooper says.

After the pro bono group made its recommendations, library officials hired Providence Associates, an Arizona-based library consulting firm, to write a building program, solicit public opinion, and analyze downtown library needs. Library officials hope Mayor Anthony Williams will put the library on an upcoming capital budget for an estimated $50 million to $100 million.

Ellen Sands and JEC

Everything you ever wanted to know about Mies in two New York exhibitions this summer

Ludwig Mies van der Rohe was already a Modern master when, in his 50s, he left Germany for the United States in 1938 and forever changed Modern architecture in this country. This summer, a short walk between Manhattan museums will link Mies' entire career—from Germany to America. Two shows will be presented concurrently: *Mies in Berlin*, June 21 through September 11 at the Museum of Modern Art (MoMA), and *Mies in America*, June 21 through September 23 at the Whitney Museum of American Art.

***Mies in Berlin* will include 275 original drawings, many from the Mies van der Rohe Archive at MoMA, illustrating his career from his 1905 arrival in Berlin until he directed the Bauhaus and left Germany. Highlights will include 14 new scale models of his early work. This exhibition will focus on the effect that Mies' contemporaries in Europe, including Peter Behrens, had on his work. Terence Riley, chief curator of the department of architecture and design at MoMA, is organizing the exhibition with Barry Bergdoll, professor of art history at Columbia University.**

***Mies in America* will trace the last three decades of the architect's life in four phases—from Chicago's IIT campus to the Farnsworth House, Chicago's Federal Center, and Toronto Dominion Centre—documented in 220 drawings and 60 photographs. Models of four buildings will be shown, including Resor House, the unbuilt Chicago Convention Hall, the Seagram Building, and the New National Gallery in Berlin. Organized by the Canadian Centre for Architecture (CCA) and the Whitney Museum of Art, *Mies in America* is curated by Phyllis Lambert, founding director and chair of CCA, and is organized for the Whitney Museum by K. Michael Hays, adjunct curator of architecture at the Whitney.**



A symposium on Mies van der Rohe, cosponsored by MoMA, the Whitney Museum, and CCA, will be held in New York in September.

Mies in Berlin* will next be shown at the Altes Museum in Berlin, from October 2001 to January 2002. *Mies in America* travels to the Canadian Centre for Architecture in Montreal, October 17 through January 20, 2002, and will be at Chicago's Museum of Contemporary Art later in 2002. *JEC



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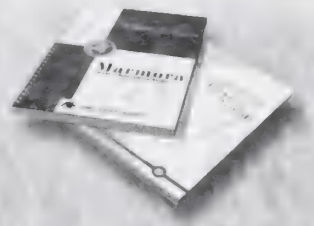
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CIRCLE 18 ON INQUIRY CARD

Need for new stadium drives redevelopment of North Londo

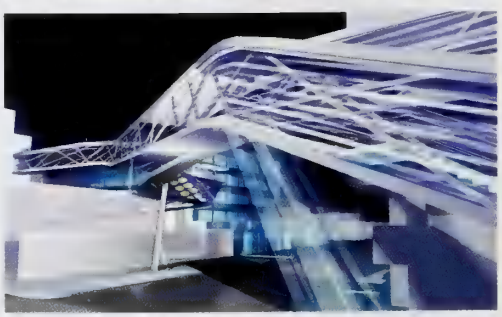
Britain's most popular pastime, soccer (or football to the British), is the driving force behind the proposed revitalization of a vast area of North London. Soccer has historically influenced the shape of the nation's urban fabric, with swathes of 19th-century residential Britain arranged around stadiums. Things are no different today.

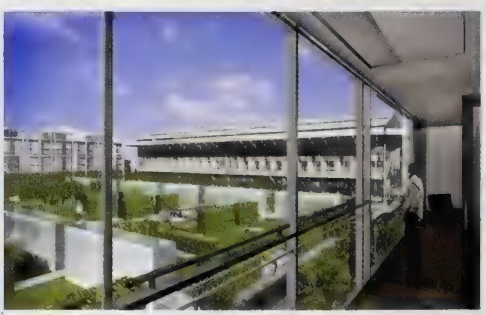
Arsenal Football Club, one of the largest and most successful clubs in the game, is planning to relocate from the dense urban area surrounding North London's Highbury Stadium, its headquarters since 1913. If Islington Borough Council accepts the club's request for planning permission this spring, a new stadium will be built on a derelict brownfield site at Ashburton Grove, just two blocks away. HOK Sport has designed a 60,000-seat, state-of-the-art stadium with an undulating roof canopy suspended in an ellipse above the stands. Rod Sheard, chair of HOK Sport in London, says that his firm is "aiming to build the most beautiful stadium in the world."

The existing stadium, a 38,000-seat Art Deco structure, will be converted into an innovative residential development. According to plans by Allies and Morrison, the east and west stands, originally designed by Claude Waterlow Ferrier, will be retained and converted into 500 apartments. The east stand, built in the 1920s, is liste by English Heritage for its architectural and historical significance. The master plan also include areas dedicated to light industrial use and a restaurant. The former pitch (playing field) will be landscaped according to a design by Christophe Bradley Hole.

Arsenal's decision to move into a new stadium is the catalyst behind an initiative to integrate a series of urban-renewal schemes in North London. A team of academics and architects called the Holloway Transverse Discussion Group has promoted the merits of linking the new Ashburton Grove stadium, the radically refurbished Highbury Stadium, and another site proposed as a business park to the south. New infrastructure, including a tram system, would provide access to a nearby waste depot, designed by Sheppard Robson, and an extension to the University of North London's Holloway Road campus. The university's plans include a pedestrian bridge designed by Zaha Hadid and a new public square. *Adam Mornement*







London redevelopment will include a new Arsenal stadium (top) by HOK Sport, a pedestrian bridge (above, left) by Zaha Hadid, and the old stadium, converted into housing (above, right) by Allies and Morrison.



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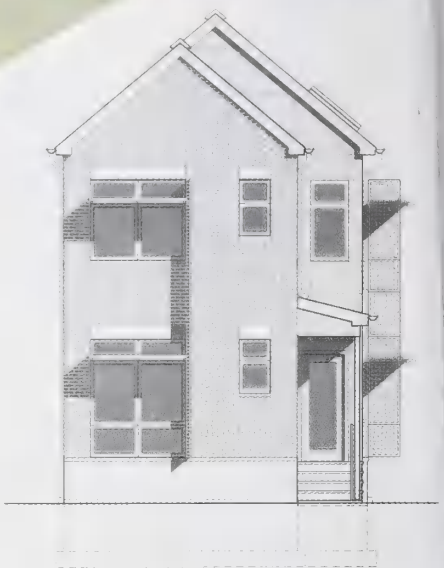
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CIRCLE 20 ON INQUIRY CARD

Five win Green Homes for Chicago competition





Designing homes that are energy-efficient, affordable, and easily produced by a conventional builder is no easy task. Five architecture firms, though, showed how it could be done in their winning designs in the Green Homes for Chicago competition. This green building initiative and international competition is part of a city-wide effort to promote energy-efficient housing and development. Five winners and four semifinalists were selected from among 73 entries from the United States and abroad. The five winners each received $20,000 and the chance to see their homes built in Chicago. The semifinalists received $10,000 each.

Four of the winners practice in Chicago: EHDD Architecture, Ross Architecture, Wheeler Kearns Architects, and William Worn Architects. The only winner outside of Chicago was Sean Garrett Architecture in Denver.

In announcing the awards, Chicago Mayor Richard M. Daley said, "With this project, we're getting much more than just five energy-efficient new homes. We intend to use these homes as an opportunity to make people in Chicago—and across the country—more aware of the need to protect and respect the environment when we make our housing choices."

The houses will be built on city-owned land with funding from ComEd, a local utilities provider. Green features proposed by winning architects include solar-powered heating and cooling, and a stairwell that uses water bottles for insulation.

Construction of the five homes will be complete by fall. The maximum construction budget for each home is $175,000, excluding the value of the lot. This includes a $115,000 construction budget, with up to $10,000 of green upgrades and up to $50,000 in innovative enhancements. When completed, the buildings will be open to help educate the public about environmentally responsible design. Eventually, Chicago's Department of Housing will sell the homes and incorporate their successful features into specifications for future affordable-housing projects.

Semifinalists were Darren Hoppa of Brooklyn, Alfons Poblocki Jr. of Chicago, Nathan Kipnis and Mark A. Miller of Chicago, OWP&P Architects of Chicago, and Hanno Weber & Associates of Chicago. *Deborah Snoonian, P.E.*



Designs by William Worn Architects (top), Sean Garrett Architecture (middle), and EHDD Architecture (bottom) were among the winners in the Green Homes for Chicago competition.

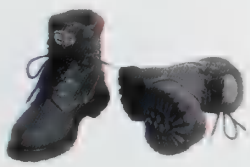
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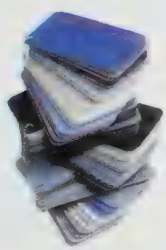








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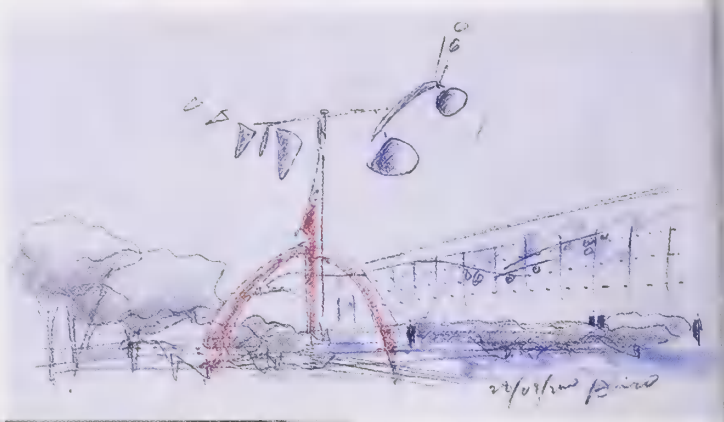
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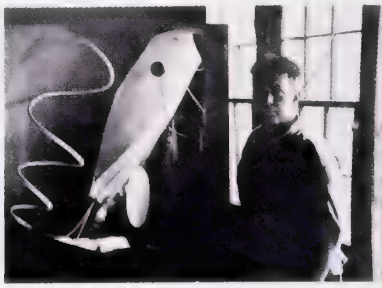
CIRCLE 21 ON INQUIRY CARD

Calder Foundation selects Philadelphia and Ando for museum honoring three generations

After months of reviewing qualifications of a select group of world-class architects and examining possible sites in several U.S. and European cities, the New York-based Calder Foundation chose Japanese architect Tadao Ando to design a new 35,000-square-foot, $50 million Calder Museum along Philadelphia's Benjamin Franklin Parkway at 22nd Street. The museum will display the works of three generations of Calder sculptors, including Philadelphia native Alexander Calder (1898–1976), who is best known for his mobiles.

The announcement was made at a February 14 press conference in Philadelphia's City Hall, a building topped with a statue of Benjamin Franklin and adorned with more than 200 sculptures: all the work of Alexander Milne Calder. His son, Alexander Stirling Calder, father of the mobile sculptor, designed the Swann Memorial Fountain at Logan Circle on Benjamin Franklin Parkway. At the far end of the parkway, at the Philadelphia Museum of Art, the mobile *Ghost* by Alexander Calder hangs in the Great Stair Hall.







A preliminary sketch (above) for the Calder Museum by Tadao Ando (left) to honor Alexander Calder (far left).

"The site at Benjamin Franklin Parkway . . . is where the thread of three generations of the family's achievement extends, unbroken, in eloquent sculptural form," Ando said at the press conference.

"The work of the Calder family has long been a part of this city's cultural fabric," Calder Foundation Director Alexander S.C. Rower, Alexander Calder's grandson, said.

Ando says he plans to create an architectural tribute that captures "the presence of the wind" he sees in Calder's mobile work.

Administered by the Philadelphia Museum of Art, the museum will house most of the foundation's collection of 300 sculptures, 3,000 works on paper from all three Calders, as well as a private collection of work by other artists.

Joseph Dennis Kelly II



Philadelphia's City Hall, needing $350 million renovation, may add retail and restaurants

Philadelphia City Hall celebrates its centennial this year, and it has never looked worse. City Controller Jonathan Saidel introduced a plan in December that would introduce retail and other uses into the aging structure, infusing private monies to save the building.

Most Philadelphia city government functions are housed in other nearby buildings, while many of City Hall's ornate rooms sit abandoned. Water seeps through dilapidated roof tiles, and exquisite vaulted ceilings and elaborately stenciled walls are rotting, creating internal deterioration and structural weakness.

Saidel's document, "City Hall Revitalization—A Plan," proposes a massive restoration and adaptive reuse project to transform the building into a thriving center of civic life and tourist activity. Currently under review by an 11-member mayoral task force, the plan describes this grand 4.5-acre, 700-room marble and granite French Second Empire-style building as an asset in jeopardy. Once the world's largest occupied structure and currently the largest municipal structure in the United States, Philadelphia's City Hall has more floor space than the U.S. Capitol and is the largest masonry building anywhere.

The plan calls for restoring and transforming portions of the building into upscale retail, restaurant, office, and public museum spaces, as well as an expanded visitors' center. Courtyard spaces covered in glass could function year-round as café and entertainment venues. New uses would target Philadelphians and tourists alike. The city would still own the building and occupy about 35 percent of the renovated spaces.

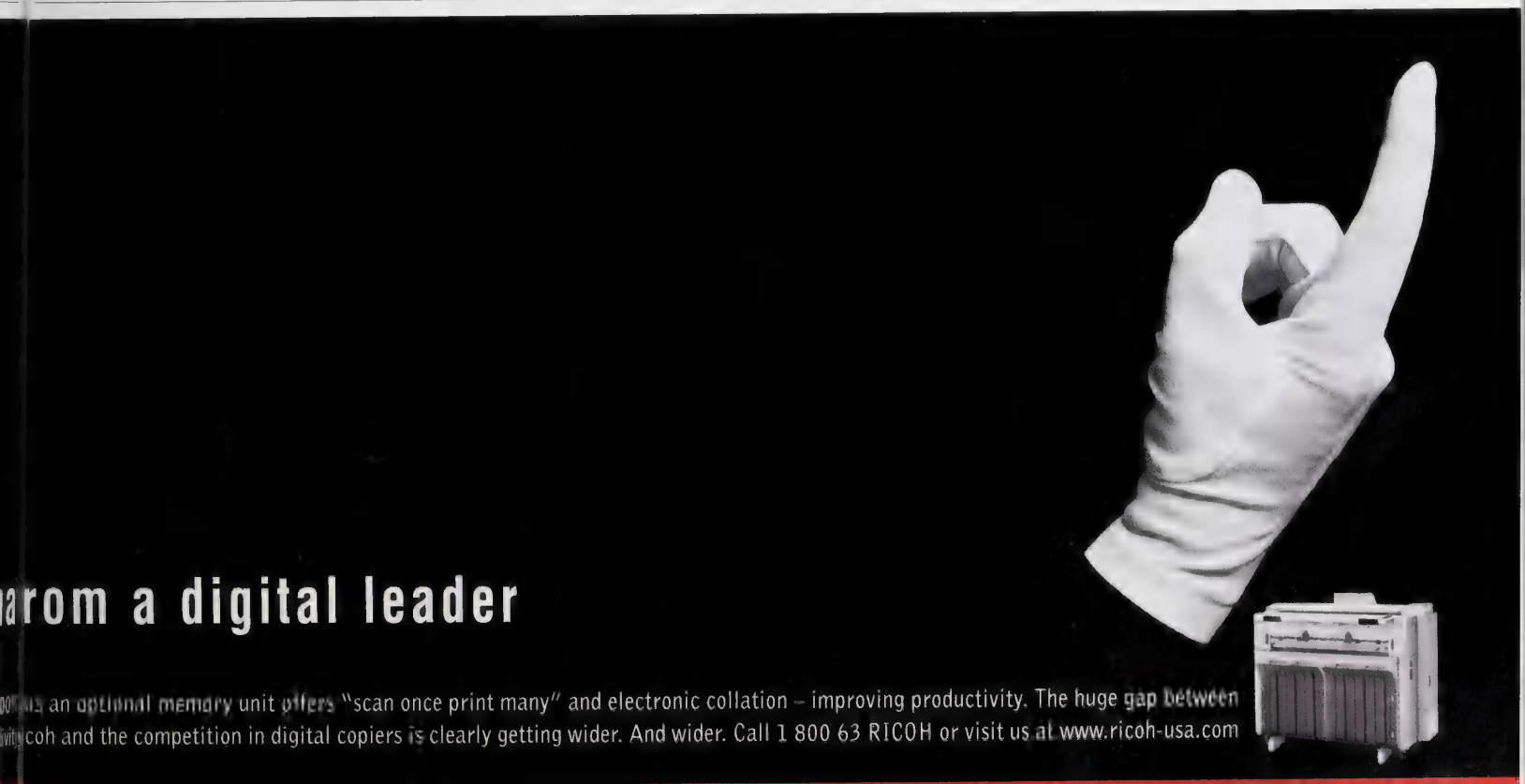
"It is unrealistic to keep City Hall primarily a public building," says 2001 AIA Philadelphia President Janice Woodcock, AIA. "There must be creative thinking to keep it alive."

Opponents, however, fear losing the structure's authority and historical presence. Critics envision a shoppers' heaven overrun with food courts and teenagers. Saidel disagrees: "The building is the city's. It always will be. Our lease agreement dictates how the space would be used."

The overall project cost is estimated at $350 million. The exterior is currently undergoing a $125 million renovation by VITETTA. Possible financing options include historic tax credits, nonprofit stewardship, and constituency-based fundraising. *JDK*



Philadelphia's City Hall may add retail.



CIRCLE 22 ON INQUIRY CARD

News Briefs



Front (above) and rear (right) views of the Museum of the Shenandoah Valley.

Graves' Virginia vernacular
The 2001 AIA Gold Medalist, Michael Graves, FAIA, unveiled his design in February for the Museum of the Shenandoah Valley, formerly Glen Burnie Historic House, in Winchester, Va. The design is based on the regional vernacular architecture of western Virginia and the Shenandoah Valley. The $20 million, 50,000-square-foot museum, which will include five galleries and an auditorium, will open in 2003. Construction will begin this fall.

Calatrava's MAM addition may not "fly" until 2002
The wait to see the completion of Santiago Calatrava's first building in the United States might be a little longer than expected. The brise soleil, which is the crowning feature of the Milwaukee Art Museum (MAM) addition, may not be ready to "fly" until summer 2002.

The original date for completion of the entire museum expansion was May 4, 2001. A portion of the addition, namely an exhibition hall, will open on that day. The reception hall under the brise soleil will open in late summer or early fall 2001.

The winglike brise soleil, which will mechanically open and close to filter sunlight, was initially scheduled to be installed early this year. But the 88-ton structure has been delayed because testing took longer than anticipated. Museum officials said a prototype of the brise soleil passed its final strength test in mid-February, but fabrication of the final form has yet to begin.

With a 200-foot wing span, the brise soleil will be composed of 72 carbon-fiber fins. Chris Smocke, the construction executive overseeing the project, says the structure will not be stable if the fins are even a thousandth of an inch out of place.



RTKL's new office will be on waterfront.

Yale hired Cesar Pelli for engineering building
Yale University has named Cesar Pelli, FAIA, as the architect for a new 50,000- to 55,000-square-foot building for its engineering school.

RTKL designs its new headquarters in Baltimore RTKL Associates will move its headquarters in fall 2002 from a downtown Baltimore skyscraper to a new 200,000-square-foot building that is designed on the waterfront near Fells Point. RTKL's 230 employees will occupy approximately 50,000 square feet of the building, called Bond Street Wharf, which was made to appear like a century-old warehouse building. Restaurants and retail will fill the ground floor.



CIRCLE 23 ON INQUIRY CARD



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CIRCLE 96 ON INQUIRY CARD

News Briefs

Eisner and Disney win National Building Museum Honor Award Walt Disney Company and its chairman since 1984, Michael D. Eisner, will be presented with the National Building Museum's annual Honor Award in a ceremony in Washington, D.C., on April 5. Given annually since 1986, the award recognizes individuals and companies that have enhanced public life in America through architecture, planning, and building. An exhibition, *The Architecture of Reassurance: Designing the Disney Theme Parks*, will be shown at the museum from March 17 through August 5.

Exhibition on Wright and Japan The exhibition *Frank Lloyd Wright and the Art of Japan: The Architect's Other Passion* will show at the Japan Society in New York City, from March 28 to July 15. Tim Culbert and Celia Imrey of Inline Studio designed the exhibition.

Space Odyssey begins Hardy Holzman Pfeiffer Associates, in association with HLM Design, made public its design for Space Odyssey, the $45 million space science education center with multistory atrium at the Denver Museum of Nature and Science. The 40,000-square-foot renovation of existing museum space will be complete in 2003.



A glass atrium will enclose Space Odyssey.





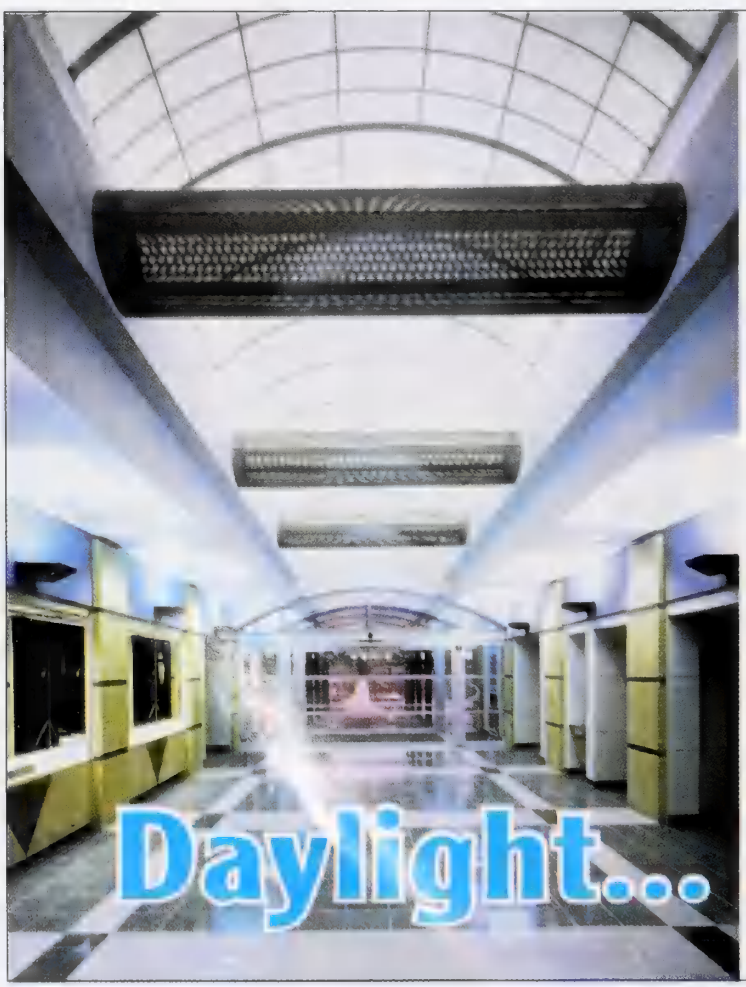
Buildings by Preston Scott Cohen (left) and NOX (right) in *Folds, Blobs, Boxe*

Whitney hires Koolhaas to study expansion needs The Whitney Museum of American Art hired Rem Koolhaas to carry out a planning study for possible future expansion of the museum on Manhattan's Upper East Side. The museum confirmed that Koolhaas would be the selected architect if the study suggests that an alteration or addition is needed. A time frame has not been set.

Folds, Blobs, and Boxes on view in Pittsburgh *Folds, Blobs, and Boxes: Architecture in the Digital Era*, the first significant exhibition by Joseph Rosa, curator of architecture at Carnegie Museum of Art's Heinz Architectural Center, runs through May 27.

The exhibition presents computer-generated drawings, models and built work by Frank O. Gehry, FAIA, Preston Scott Cohen, Wes Jones, NOX, Foreign Office Architects, Kolatan/MacDonald, and Greg Lynn, among others. Rosa places this recent work in a historical context. For example, he links Frank O. Gehry's 2000 Experience Music Project with Frederick J. Kiesler's 1933 Space House.

Siza wins Wolf Prize Portuguese architect Alvaro Siza is the recipient of the 2001 Wolf Prize in Arts, awarded annually by the Israeli-based Wolf Foundation.



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CIRCLE 24 ON INQUIRY CARD

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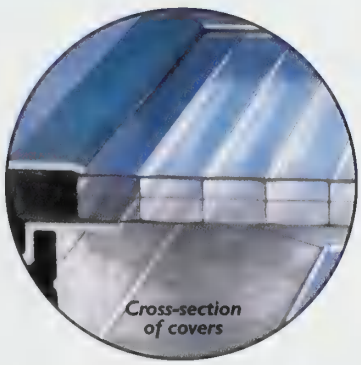


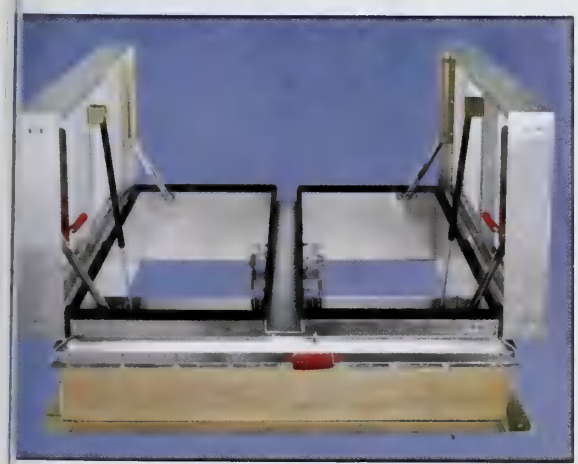
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DESIGN

Profile: Marwan of the Desert



Marwan Al-Sayed, a 39-year-old architect in Phoenix, has a strong affinity for massive walls, deeply pigmented colors, and planar surfaces. He should. The New York-trained architect (Columbia, M.Arch., 1986) was born in Baghdad, went to high school in Tangier, Morocco, and Carbondale, Colo. Mountains and deserts, plus vernacular architecture of thick earth walls raked with strong sunlight, have clearly had their effect. It's only appropriate that Al-Sayed should end up in a city with all of the above.

After studying and working in New York City, including a nine-year stint with Tod Williams and Billie Tsien & Associates, Al-Sayed moved to Phoenix in 1994 to supervise construction of Williams and Tsien's addition to the Phoenix Art Museum. "I wanted to be on a large project every day to understand how a building went together," he says. Soon Al-Sayed found a small, vital community of architects, including Will Bruder, Wendell Burnette, and, nearby in Tucson, Rick Joy. The interaction has been so successful that Al-Sayed, Burnette, and Joy are currently collaborating on the design of Page One Resort and Spa on the Arizona-Utah border.

Al-Sayed had expected to return to New York right after the museum was finished, but then he got two commissions: one, the sculpture garden, fountain, and an entry pavilion for the Phoenix Art Museum; the other, the House of Earth and Light, on the outskirts of Phoenix. (He also met his partner, Mies Grybaitis, a glass artist from Australia who had just set up her own business.) So Al-Sayed stayed and in 1997 opened his own office. Although he had already designed a Manhattan penthouse on his own (with architect Janet Fink), the House of Earth and Light, now nearing completion, was his first freestanding work. Conceived for two firefighters on a limited budget, the house is made of thick, light-colored "poured-earth" walls—a special mix devised by the archi-



Martin-Bonnett House, Phoenix, 2001
Marwan Al-Sayed Architects. This renovation and 1,800-square-foot addition to a one-story house (now 4,500 square feet total) on a small site uses masonry block with integral insulation for smooth planar walls. The series of volumes opens onto an outdoor pool.



Coast House, Gearhart, Ore., 2001
Marwan Al-Sayed Architects. The 4,000-square-foot house has a black slate roof and black (and blue-black) walls on three sides: "It's supposed to be enigmatic," says Al-Sayed. The fourth side facing the water (left) is glazed.

continued from previous page tect—and a double-layer canvas roof. "It's as if a cloud is permanently parked over the house," says Al-Sayed. An adjacent studio is totally enclosed (for now) with black metal panels on a black steel frame. Another job is an 1,800-square-foot addition and renovation for the Martin-Bonnett house in Phoenix, where Al-Sayed has been gutting the original and adding new construction incrementally. To get more natural light inside, he has created a series of stepped-back volumes with expanses of glass, the walls sometimes cranked on a five-degree angle. "It's very improvisational," he says.

Al-Sayed's three-person firm (plus part-timers) currently is designing a 25,000-square-foot low-rise office building for Reliance Systems in Chandler, Ariz., plus houses in Oregon and Long Island. "But I miss New York's density," he admits. His solution: to open a second office in New York. *S. Stephens*

"I LIKE BUILDING WITH MASS AND SOLIDITY, AS WELL AS LIGHT AND COLOR." —MARWAN AL-SAYED

Go to architecturalrecord.com/archrecord2 for more on Marwan Al-Sayed, and to submit your own projects.







House of Earth and Light (a.k.a. McCue House), Phoenix, 2001
Marwan Al-Sayed Architects. The 2,500-square-foot house has poured-earth walls and a canvas roof (above and right); the adjacent studio is black metal (right, top).

Fifth Avenue Penthouse, New York City, 1995
Al-Sayed Fink Architects (Marwan Al-Sayed and Janet Fink). A 3,500-square-foot renovation features deeply pigmented blue walls, a sun court (3 by 19 feet) enclosed by bronze-and-glass walls, plus large pivoting glass doors overlooking Central Park.



PHOTOGRAPHY: ©BILL TIMMERMAN (MARWAN PROJECTS); PORTRAIT RAY DEHN COURTESY AIARCHITECT

WORK

Forge a career and get ahead

You say you want a revolution? Associate members of the American Institute of Architects (AIA) want their voices to be heard at the national level and have organized themselves with a new committee to do just that.

The National Associates Committee (NAC) is an elected body of associate members from each of the 18 AIA regions, with a new chair and executive committee elected from within the group annually. The 2001 National Associate Director is **Raymond Dehn, Assoc. AIA** (left). In this role, Dehn, the 1996–97 president of the American Institute of Architecture Students, represents associates on the AIA national board.



In its first few months, the NAC

LIVE

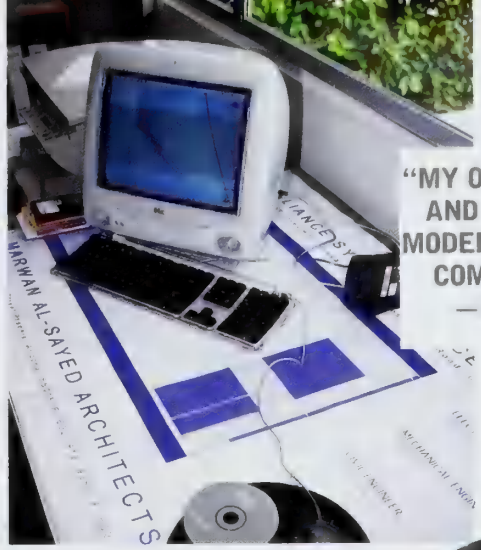
Put away the work and get a life

For many young architects, it must seem that work and life are pretty much the same thing. A 70-hour work week can do that to you. So in honor of those putting in the overtime, the first installment of "Show us your..." celebrates the workspace and how architects—trained, after all, in design—make it feel like home. Take Mimi Tsai, an architect at Mekus Studio in Chicago, seen below. She's decorated her desk with a photo of a giant turtle (you can see it if you squint). Her father named it Mimi in her honor. Next month, we'll be looking for you to show us your shoes. Yes, your shoes. Get creative with this assignment and start sending your photos in now.

Go to architecturalrecord.com/archrecord2 for even more examples of the workspaces of young architects and for details on how to submit your own pictures.







"MY OFFICE IS SMALL AND SERENE—IT'S IN A MODERNIST RESIDENTIAL COMPLEX IN PHOENIX."
—MARWAN AL-SAYED

Above: *The uncluttered workspace of Phoenix architect Marwan Al-Sayed belies the recent volume of work his office has received.*
Right: *James Harkrider (shown here with his dog, Katie) established D+FORM in June, 2000 in Williamsburg, Brooklyn. Focusing on residential and commercial work, D+FORM's current projects include a loft renovation in Tribeca and a new residence in Bodega Bay, Calif.*



James Harkrider in his Brooklyn studio.

explored the issue of appropriate titling of "interns"—those who have earned an accredited degree in architecture but have not yet become licensed. The committee's report recommends changing that the title "intern" should be modified to include the term "architect." Suggestions for a new title included associate architect, intern architect, architect-in-training, architectural designer, architectural apprentice, junior architect, pre-architect, apprentice architect, non-licensed architect, and architect. Gal Friday, Blueprint Boy, and CAD Jockey were not considered. *John E. Czarnecki, Assoc. AIA*

The road less-licensed

Fewer and fewer people attempting to become licensed architects? Based on the number of people who took the Architects Registration Exam (ARE) from 1990 to 1997, it seemed so. Although it has increased since 1997, the number is far below levels of a decade ago.

In 1990 the National Council of Architectural Registration Boards (NCARB) administered 89,899 ARE divisions. That number fell through the mid-1990s and has since inched up to only 29,566 in 2000. NCARB expects the number of divisions administered to level off in the mid-30,000s. Should the economy falter, though, the number of persons pursuing licensure may again decrease. What happens when the Baby Boom architects, now in their 50s, begin to retire? *JEC*

For more on the NAC and licensure, visit architecturalrecord.com/archrecord2

TALK

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Ridding the American landscape of lawn: Is nothing sacred?

Critique

By Will Yandik

One landscape remains unchallenged in our built environment, a vernacular Virgin Mary, worshiped seasonally by millions—the lawn. Anyone who doubts that Americans are willing to place form ahead of function need only observe an August suburb and its throngs sweating their way to a perfect carpet of green. We cultivate more grass than wheat, corn, or tobacco, with almost 50,000 square miles of grass in the U.S. alone—an area roughly the size of New York State. The lawn's adverse effects on the environment are well documented: chemical pollution and runoff, a voracious appetite for water, mowers that belch hydrocarbons. Yet I suggest another reason, an aesthetic one, to rethink the concept of the lawn. It is an outdated pastoral fantasy, a bland backdrop that hinders the imaginative use of landscape. Much of what we dislike about sprawl is simply lawn.

It is time for a change, and architects must be part of that change. After all, the lawn is more architecture than landscape, more design than nature. It is no more natural than the concrete that often forms its border; in fact, we exterminate any real nature (moles, grubs, dandelions) that violates our green. The lawn is the imposition of designed interior space onto an exterior frame (thus the ubiquitous description of a healthy lawn as a "carpet"), and this kind of design may have outgrown its purpose. As new architectural designs break free from strict, boxlike intersections of 90-degree angles, it is less important to provide a horizontal, neutral surface to complement those axes.

Will Yandik is a freelance writer and editorial intern at Preservation *magazine in Washington, D.C.*

The origins of the lawn are in Western Europe, likely in the British Isles, where the Atlantic climate keeps native grasses naturally green and short. What began as practical, enclosed grazing fields evolved into the estate lawn, cultivated by an upper class that was drunk on classical pastoral literature. Wealthy colonial families in North America slavishly imitated the English landscape until the middle class caught on in the 19th century, encouraged by fashion leaders such as A.J. Downing, who urged others to adopt "the unrivaled beauty of [England's] velvet lawns." The lawn flourished in the new suburbs, reaching its icon status after World War II, when Madison Avenue challenged returning soldiers to fight crabgrass instead of an evil empire.

Quest for perfection

The lawn has become a quest for perfection, a singular standard of color, shape, and texture. A flip through a grass seed catalog is initially inspiring and expansive—Bermuda grass, buffalo grass, centipede grass, St. Augustine, zoysia—but the poetry ends with the nomenclature. The seeds are used to produce the same uniform shapes. The aesthetic problem with the lawn is that it allows no room for innovation, growth, or art. The lawn is a front door, a symbolic facade constructed to communicate conformity. It advertises that the owner honors such values as dependability and hygiene. In essence, I shave, therefore I mow. The idea of the lawn has become so universally sacred that in the arid Southwest even gravel and hardscaping have been painted green and arranged in squares.



Lawns consume vast amounts of water to keep the suburban landscape green.

Must the lawn always be the green canvas, the neutral background for an architectural event—something that unifies brighter, bolder colors and textures? Mark Wigley, author of *The Electric Lawn,* describes architects' renderings: "It is assumed that wherever there is nothing specified in the drawing there is grass. The lawn is treated like the paper on which the projects are drawn, a tabula rasa without any inherent interest, a background that merely clears the way for the main event." A problem arises when we fail to recognize that the periphery in architectural renderings constitutes most of our built environment. As the boundaries of our cities fade into suburbs, we realize that the lawn surrounds more than the single-family bungalow. Our schools, hospitals, libraries, museums, and corporate headquarters have become isolated in lawn.

Some successful lawn alternatives already exist. Xeriscaping with varied, drought-resistant grasses and cacti has become popular in the West, and some landscapers use native wildflowers and indigenous shrubs creatively in the East. But there must be a stronger relationship between architect and landscaper or, better yet, architects willing to design whole landscapes. Architects rely too heavily on the

lawn to sew buildings together. The result is often a predictable composition that triggers our knee-jerk reactions against nonurban environments. The lawn prevents the suburb from achieving a balance of harmonious differences—the juxtaposition of different architectural styles and textures described and admired by critics like Ada Louise Huxtable. By replacing the lawn with an architectural landscape that integrates geometry within existing regional and natural geographic variation, we could advance suburbs beyond the predictable and prosaic.

Fusing structure and land

The 1994 Japanese Soft and Hairy House by Ushida-Findlay Partnership illustrates a more ambitious lawn replacement. A simple motif that could be expanded, the design fuses structure and natural topography. An unfussy tangle of native vegetation coils around the roof of the smooth, sculptural frame; the composition cannot be teased apart. Viewed from ground level, the green elements provide a hairy texture against the sky, softening the concrete and stucco and pulling the piece together. A similar example is the 1987 Brunsell Residence by Obie Bowman, AIA, in Sea Ranch, Calif. The house appears to have been raised from the surrounding California grasses. Natural elements are not sacrificed through the introduction of geometry to the landscape, but rather assimilated into the composition. The architectural design expands beyond the four walls and bleeds into its environment. More recently, the Diamond Ranch High School by Morphosis in Diamond Bar, Calif., integrated classrooms into the natural topography of low hill barrens and scrub oak of a Los Angeles suburb. No dirt was removed or added. By cantilevering buildings off a hillside slope and choreographing the irregular rooflines with the natural contour of the landscape, the school campus eliminates the lawn.



Natural landscape envelopes the Brunsell Residence by Obie Bowman.

If lawn-alternative designs exist, why then have they had such limited impact? One obstacle is zoning ordinances. In many municipalities, homeowners must specifically devote a certain percentage of their property to lawn, and citizens have the right to sue if their neighbor's grass grows a few inches above regulated standards. Another obstacle is simply consumer resistance. Americans have been taught for more than a centur that the lawn is a safe, responsible statement of taste. Therefore, this time-tested standard will not vanish overnight. And despite the lawn's negative qualities, the lawn and gar den industry successfully markets a familiar, accessible product. It's a reality that is unmistakable, but not immutable. Architects, like all artists should pride themselves on pushing, rather than following, consumer tastes. Our landscape begs for an alternative to the sea of green. ■



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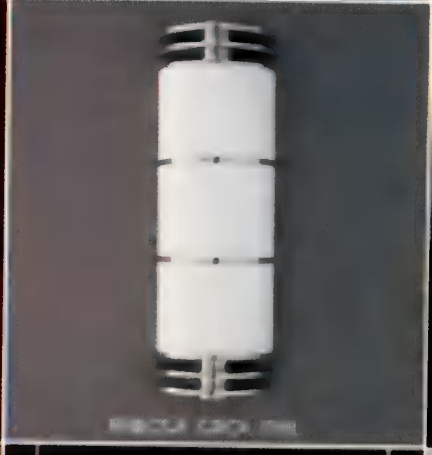

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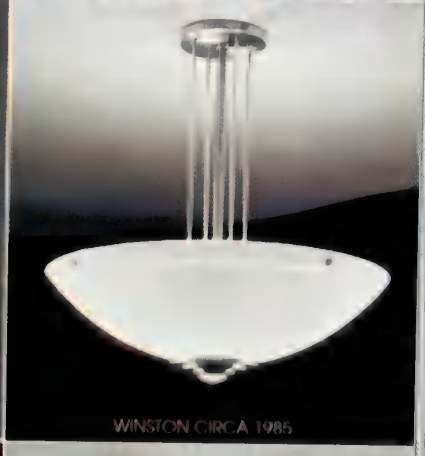

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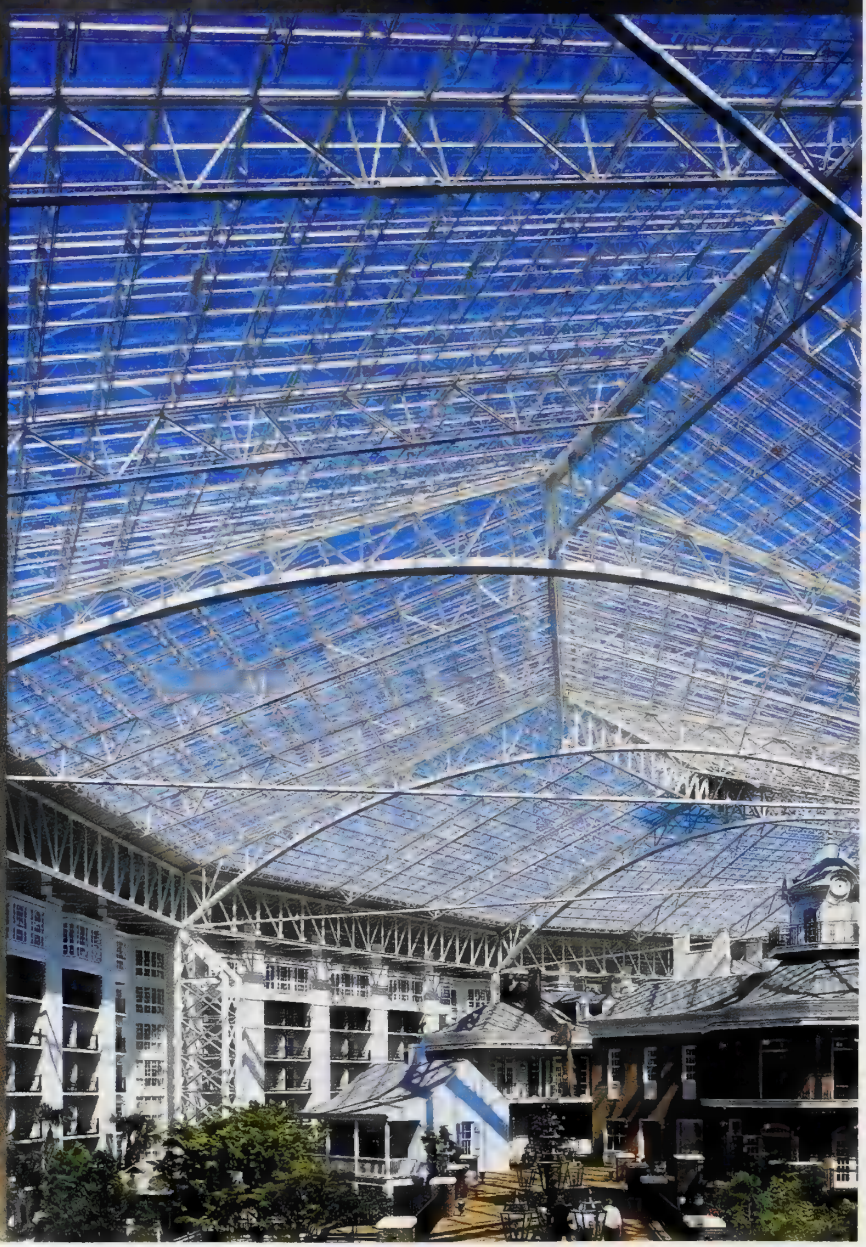


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CIRCLE 31 ON INQUIRY CARD

Using the psychological contract to help retain young staff members

Practice Matters

By Debra Lehman-Smith and James B. McLeish, AIA

Architectural firms spend a significant amount of time and money recruiting talented younger staff. We attend on-campus job fairs, participate in university architectural and interior design boards, interview countless potential employees, and hire interns in the hope that they will continue to work for the firm in the long term. But firms often drop the ball when it comes to retaining the younger staff members after their initial excitement wears off.

This is a relatively new problem. When we first started our firm, we knew that we wanted to build a solid team of highly talented people, and we knew that this would not be easy. In order to attract talented employees, we had to entice them with a good financial and benefits package, as well as interesting projects. The job market in the past was much tighter, and younger employees felt lucky to have work and stayed at jobs longer.

Recent architectural graduates have much more job mobility, thanks to the economy and the fact that many alternative careers in fields such as real estate, construction, and industrial design have opened up. Our culture has changed, too. Young people may forego job security for the opportunity to work at a start-up, where their stock options might even make them rich. Today, it is not enough to hire smart graduates and offer them good salary and benefits packages. In order to retain these employees, the people who already work at the firm must interact with new hires in a supportive manner. By implementing the following four-step proactive process on an ongoing basis, you can greatly reduce your firm's turnover rate.

Debra Lehman-Smith and James B. McLeish, AIA, are partners at Lehman-Smith+McLeish (LSM), an architecture and interiors firm based in Washington, D.C.

1. Create the psychological contract

People who hire new employees must understand that during the interview and hiring process, a verbal, psychological contract is forged between employer and employee. During the interview, what message are you giving potential employees? Interviewers must be clear about what they want in a new hire, what the job responsibilities are, and what the firm is committed to offering its young employees. Start by talking about the work environment. Explain the firm's organizational structure, the amount of client contact there will be, the kind of projects younger staff will work on, and the challenges and rewards of the work.

In the interview, it's equally important to learn what the applicant wants. Often, recent architectural graduates do not know what they really want, and it is up to your firm to decipher the applicants' goals based on their interview responses and portfolio. Look beyond professional training and skills to an applicant's drive and ambition, his expectations from a job, and his areas of interest and enthusiasm. Then, hire the best match for the firm.

Firms are organized in different ways. A good match for one firm may be a terrible match for another. Does the potential employee want to be involved in every stage of the design process from start to finish within the first year? If so, then he could be a great candidate for a small to mid-sized firm looking for young talent for small projects. However, he would not be a good match for a firm that only works on extremely large projects or for a firm that is looking to staff a 1 million-square-foot project that is just beginning and is projected to last for years.

Be sure that your goals and those of the potential employee are similar. One of the worst mistakes a company can make is to make promises that will not be kept.

2. Mentor the new employee

At many architectural firms, a partner or principal will conduct the interview, yet often he or she does not actively supervise new employees. This is where problems often start. It is crucial to remember that new hires believe that the person who discussed what the firm was offering during the interview—the psychological contract—will be the person who sees to it that these promises are kept. But new employees often find themselves supervised by associates who are not aware of what the partner may have said about the work environment or what opportunities were promised. When the job does not meet an employee's expectations, he may feel that the verbal contract was broken and may decide to leave the firm.

To prevent this, the firm must assign a mid-level staff member to act as a mentor toward new employees. That person should be part of the interview team and should make the psychological contract with applicants, because he or she will be supporting and interacting with them in the coming months and years. Mentors should be chosen carefully. Not everyone has the interpersonal skills or the interest necessary to support new employees in an advisory or mentoring role. It may take extra effort on the mentor's part to maintain the connection with the new employee, especially if they are working on different projects.

In addition, contact with the firm partners or principals should be continued after these initial interviews. Even if the new employee is not working directly with the partners, there should be other times for this interaction to occur. At Lehman-Smith+McLeish, we often have firm events, such as in-house project critiques and presentations, trips to art exhibits and architectural lectures, as well as an annual tour of prominent architectural spaces. This gives our staff more opportunities to interact with one another than they have during a normal workday. And, given the

nature of each event, the interaction is often a chance for the more experienced people in the firm to share their knowledge with younger members. We consider interaction between employees in architectural settings outside of the office to be essential in creating lasting relationships.

3. Manage the morale curve

When a young person comes to a new job, he is excited and idealistic. However, in a few months he may well go from feeling euphoric to feeling mired in the workaday world, not because of anything the architectural firm has or has not done. This can often just be reality setting in after weeks of routine work and late nights.

The mentor must be aware that this will happen and manage the situation appropriately. If new employees lose some of their initial enthusiasm, let them express their frustration and disappointment and be careful not to become defensive if some of the feedback is negative. To bring the morale curve back up, the mentor first should help young employees get a handle on the reality of the situation by helping them understand what they should expect at this stage of their career—and what they can achieve in the future. And, as trivial as it may sound, it helps just to say that almost all of us have had times when we thought we would never get past doing stair details or picking up redlines, but eventually we did.

Finally, the adviser should also take the time to really think about the relationship between a hire's professional growth and her satisfaction, to find the tasks that are best suited to her, thus allowing her to have some authorship of her own career. In addition, it is helpful if, during the first months of new employees' tenure, principals check in with them regularly, ask how things are going, and encourage them to discuss any problems honestly.

4. Communicate openly

Occasionally, an architectural firm will undergo a significant change, perhaps in its organization or in the nature of its work: A partner may be added to the firm, a principal may leave, or a high-end retail design may shift to corporate work. The change can be like a big rock thrown into a quiet pond: The ripples may start the gossip mill and raise questions, uncertainty, perhaps fear or anger. It can also alter the psychological contract between younger staff and the firm.

How can a firm help its employees weather and even welcome the change? The key is communication, starting at the top. A senior partner should tell associates exactly what is going on and explain the change fully. Don wait until the last minute. Do it u front. Otherwise, employees will imagine the worst. The associate should give younger employees a chance to ask questions. This two pronged approach is both reassuring and informative, and it will help allay fears that might oth erwise lead to turnover.

It is inevitable that architectur firms will lose some of their younge staff. But they can minimize attritio by creating an organizational struc ture that supports the psychologica contract, by establishing a mentorin structure, by proactively managing the morale curve, and by communi cating early and clearly any significant company change to all employees. In today's market, we must be more creative in our initial search for new employees, and we must forge strong relationships with them so that the firm can make it to the next level. Remember: You recruit younger employees once. But you retain them one day at a time. ■

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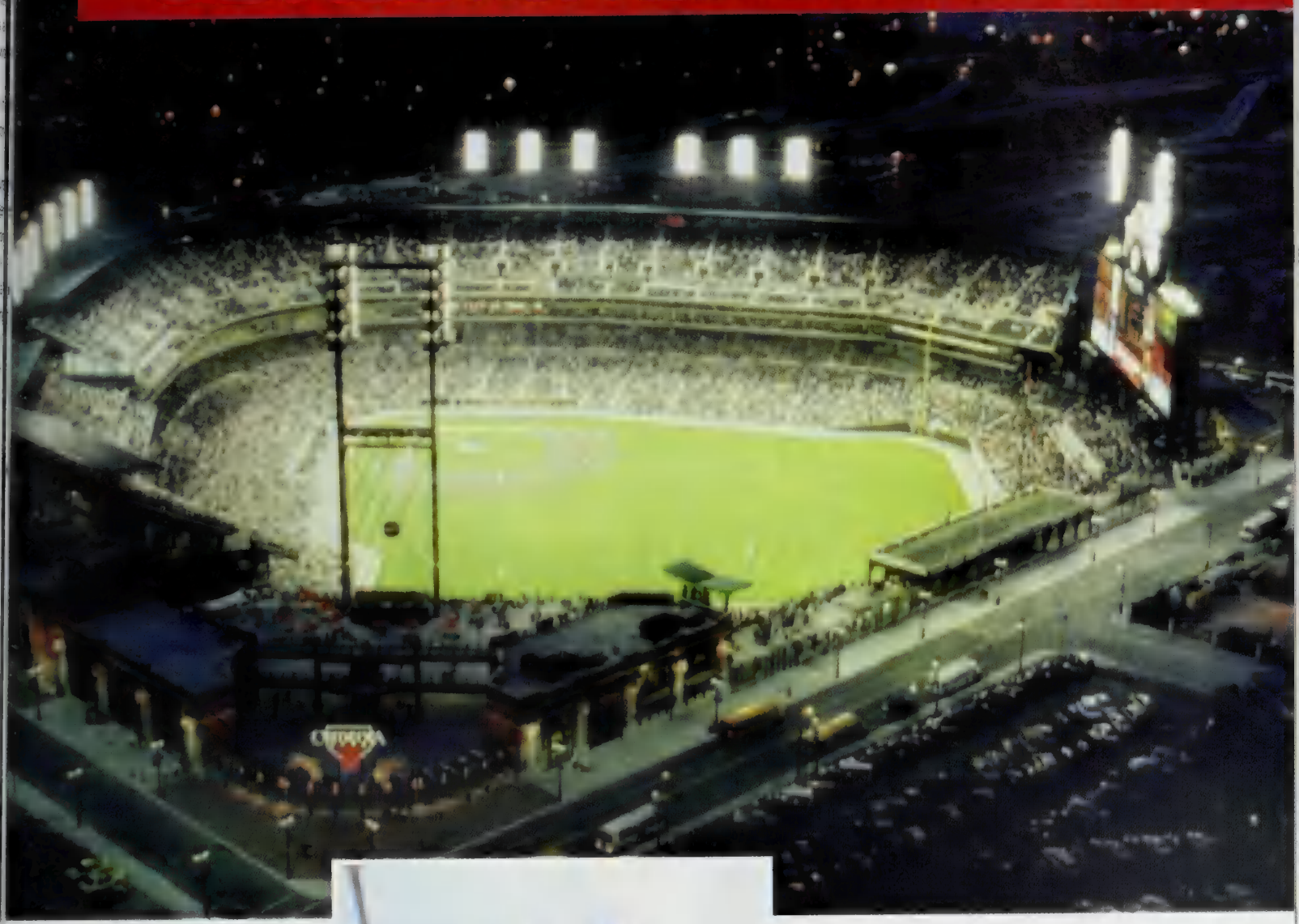
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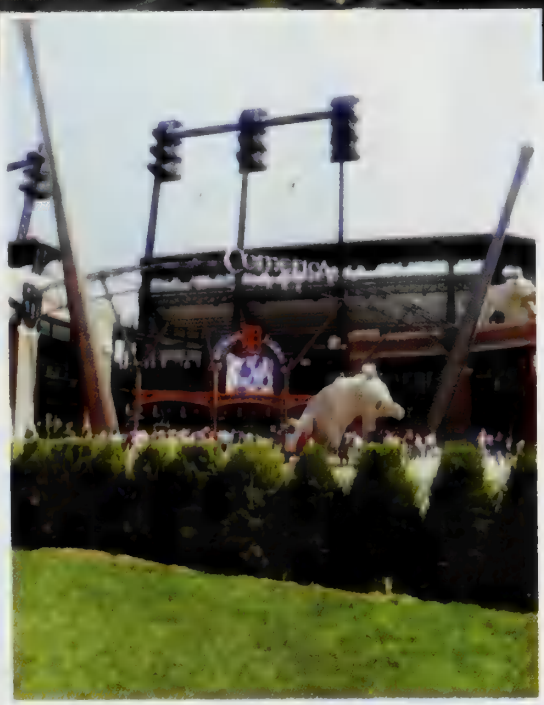
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By Andrea Oppenheimer Dean

On the Job: Design and the American Office, *National Building Museum, Washington, D.C., through August 19. Curated by Donald Albrecht and Chrysanthe B. Broikos; exhibition and catalog design by Pentagram.*

Plus ça change, moins ça change. The exhibition *On the Job: Design and the American Office* contends that the office has been an incubator of radical social and cultural change. Yet we leave the exhibit feeling the office has come full circle. The first image on display—of the typing department at National Cash Register in Dayton, Ohio, in 1890—shows a bullpen with lamps dangling from an exposed ceiling. One of the concluding images, of a cyber cafe, has similarly simple furniture arranged—albeit more randomly—beneath lamps dangling from an exposed ceiling. This déjà vu is intentional, says curator Chrysanthe Broikos. "It shows how we've gone from regimentation to a more open way of working."

But *On the Job* is not a simplistic show. It covers more than a century of office history and casts a wide net over the technological, political, social, and design changes that have altered the workplace. It tells the story through photos with long explanatory captions, excerpts from films and television shows, interactive computer stations, computerized versions of nearly everything in the exhibit, and examples of furniture and technology. The office gadgetry ranges from an 1874 typewriter to a 2000 Clio computer, and the furniture from an 1874 office conceived as a cabinet to a 1997 workstation prototype called Flo, by the Haworth Ideation Team.

If anything, the exhibit is too ambitious. Because space is tight, three workstations—a Knoll desk, credenza, and occasional table from the 1960s; a 1964 Action Office, designed by George Nelson with inventor Robert Probst for the Herman Miller Company; and the Flo—are asked to sum up nearly four decades of change in open-office design. They can't do the job, especially out of context. A space squeeze also explains the disconnect between 1960s workstations and their backdrops, photographs of 1980s and 1990s office buildings. The catalog, published by Princeton Architectural Press with chapters by Thomas Hine, James Russell, Stanley Abercrombie, Phil Patton, and others, fills in the exhibit's gaps and smooths its sometimes fitful storytelling.

The exhibit sees the office as a microcosm of American social transformation beginning after the Civil War. With the rise of "the company," a term derived from military usage, came middle management to implement new marketing strategies, coordinate distribution networks, and track sales. The paper chase had begun.

Frank Lloyd Wright's Larkin Administration Building (1906) in Buffalo was the first architectural embodiment of a desire by enlightened Progressive-era capitalists to improve the factorylike conditions of clerical workers and make work an uplifting experience. In part to attract the best workers, the Larkin company provided a clean, light-filled environment. It had rudimentary air conditioning, as well as a YWCA and a music lounge to encourage self-improvement. Not least, the Larkin was a machine for working in which thousands of pieces of correspondence were efficiently processed daily from the building's upper level downward.

In the 1910s, American business made efficiency its mantra. Frederick Winslow Taylor, the father of scientific management, applied himself to streamlining office procedures in 1911, and the Ford Motor Company developed the assembly-line based on his time-and-motion studies. The Modern Efficiency Desk, created in 1915 for the Equitable Assurance Company, was, unlike the rolltop and cabinetlike Wooton desks it replaced, devoid of drawers and cubbyholes. Papers couldn't be hidden, so they had to be kept moving: The office worker as paper pusher was born.

World War II reinforced the office's image as a corporate barracks, and business adopted military hierarchies. The touchy-feely 1960s ushered in the office as a friendlier environment, and the German Quickborner Consulting Group originated the open-office and flexible-furniture systems to improve office communications and paper flow. The rest, as we know—though not from the exhibit—has been largely a matter of fine-tuning the open-office plan and its systems, primarily in response to resistance to them from upper management, about which the exhibit is also silent. Offices have adapted to new technologies, to more casual and interactive styles of working, and to new venues. That brings us to the contemporary cafe, so eerily reminiscent of the typing department at National Cash Register in 1890. ■







From top to bottom: the Flo workstation, 1997; SEI offices by Meyer, Scherer & Rockcastle in 1997; the Remington Typewriter Co. in 1916.

Contributing editor Andrea Oppenheimer Dean works out of her home office in Washington, D.C.

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CIRCLE 35 ON INQUIRY CARD

Snapshot



By Rita F. Catinella

Turning stone into fabric for a fashion showroom

"This is where hand-embroidered fabric meets carved stone," says fashion designer Naeem Khan of his New York showroom by designer and architect Tarik Currimbhoy. A protégé of fashion designer Halston in the late 1970s, Khan shares the Fashion District showroom with his wife's company, Phoenix, which supplies the hand embroidery for haute couture houses around the world. Khan uses the showroom to display his line of dresses that have been worn by an array of celebrities, including Hillary Clinton, who wore a Khan original at the first inauguration of then President Clinton. Both companies employ about 2,500 workers in a third-generation workshop in India where every single garment is hand-stitched. "It's an old art form and we are not going to let it die," says Mrs. Ranjana Khan.

The Khans wanted an open, loftlike space bathed in natural light. Since the 2,500-square-foot space would also need to serve as an office, it had to work twice as hard. "Khan had little room, so he wanted it to be open, and clean," says Currimbhoy, who is trained as a designer, architect, and industrial designer. "Based on that, the premise

An undulating sandstone screen divides the showroom from the office and replicates the intricate Indian handwork of the dresses on display.

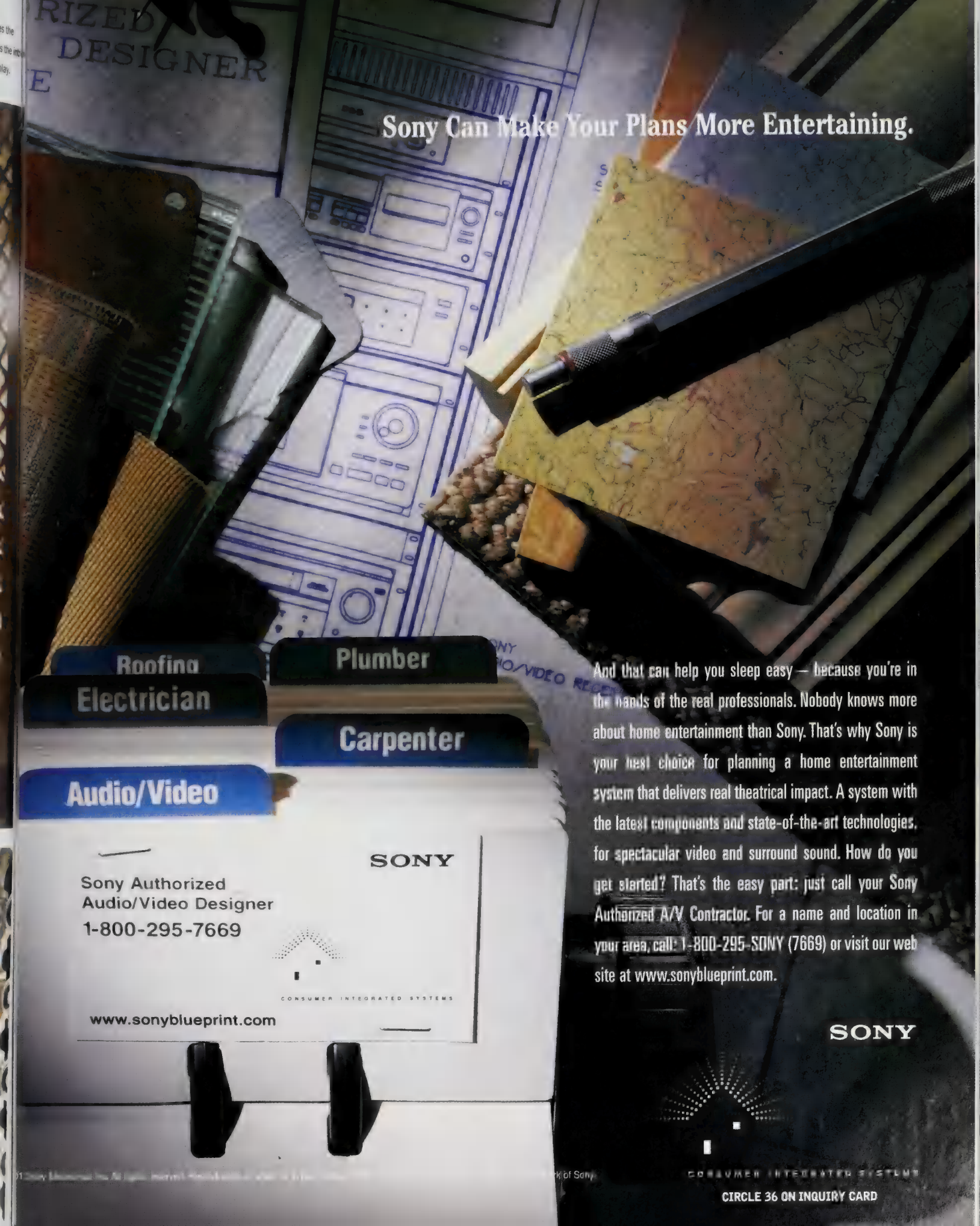


was to have one clean wall conversing with another clean wall." The colorful dresses are lined up against one wall of the rectangular space, and between these two elements is a freestanding serpentine sandstone screen. "The intent was to create what would be the representation of a weave in stone. The undulation was to evoke a sense of fabric," says Currimbhoy.

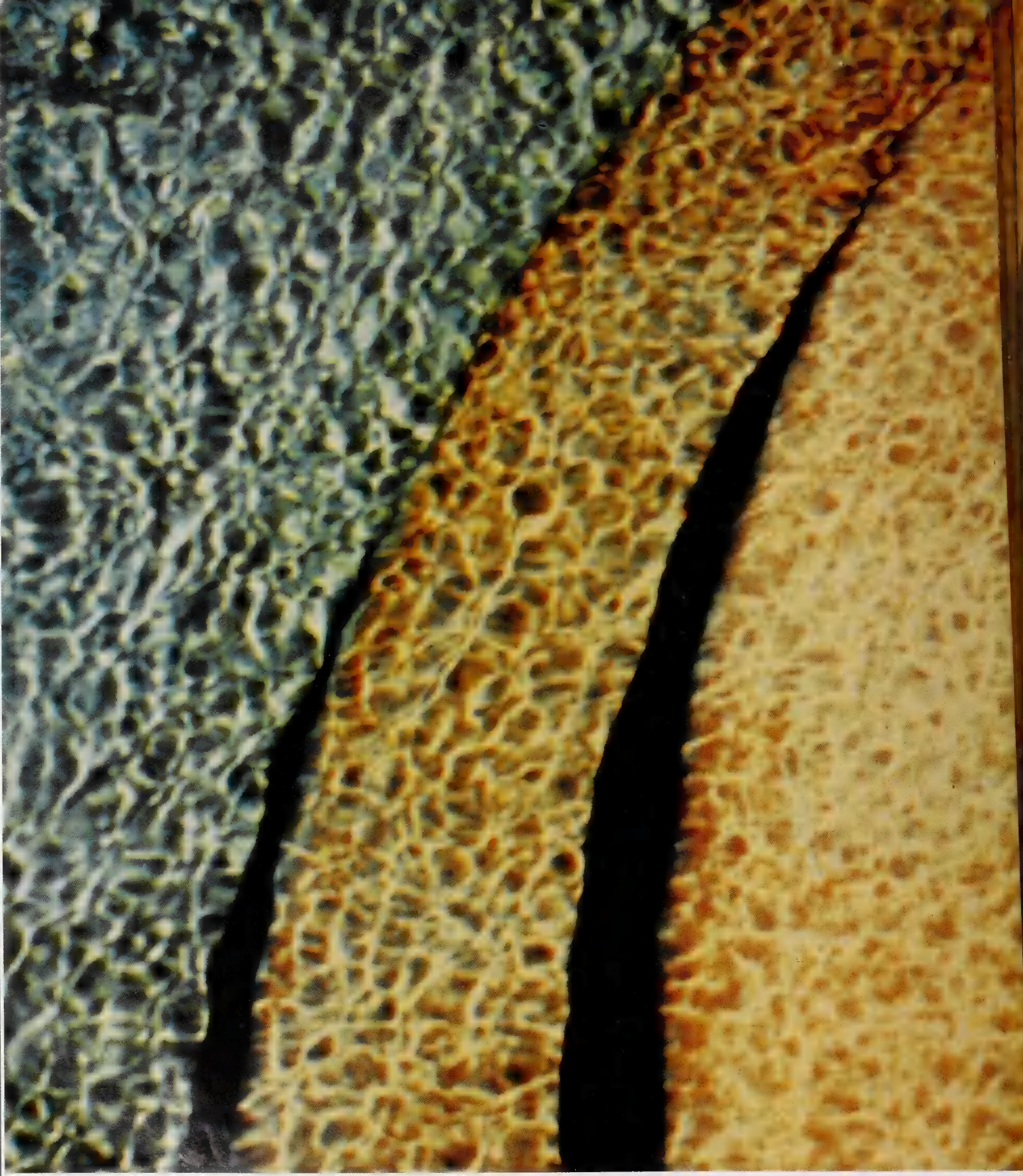
The 48-foot screen was hand-carved of sandstone from a quarry near the Taj Mahal in India and shipped to New York in sections. A team of five cutters worked on each of the twelve 1,200-pound screens over a four-month period. In order to protect the stones from breaking during cutting, each piece was lifted by crane and placed in a pit of sand to absorb the pressure of the carving. Designed, executed, and installed by Sana Stone, a subsidiary of Currimbhoy & Co., each curved section is 3½ feet long, 8 feet high, and 2½ inches thick. Between the folds of each undulation, like a display at a museum, stands a mannequin in a Naeem Khan dress. "The folds of the screen are sensuous, like the folds of a dress," adds Khan.

Ivory Venetian plaster finish on perimeter walls and a cream-painted concrete floor define the boundaries of the space. A row of cream-colored, flowing Ingamaro limited edition "Jinkins" lights serves as a sensuous complement to the screen. ■





CIRCLE 36 ON INQUIRY CARD



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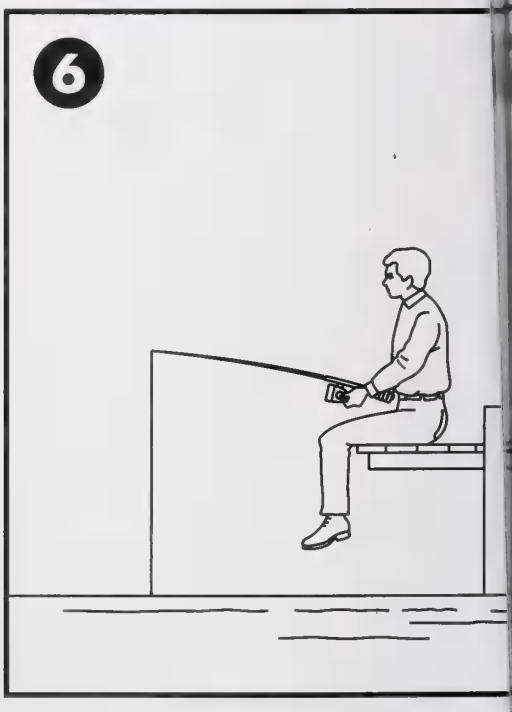
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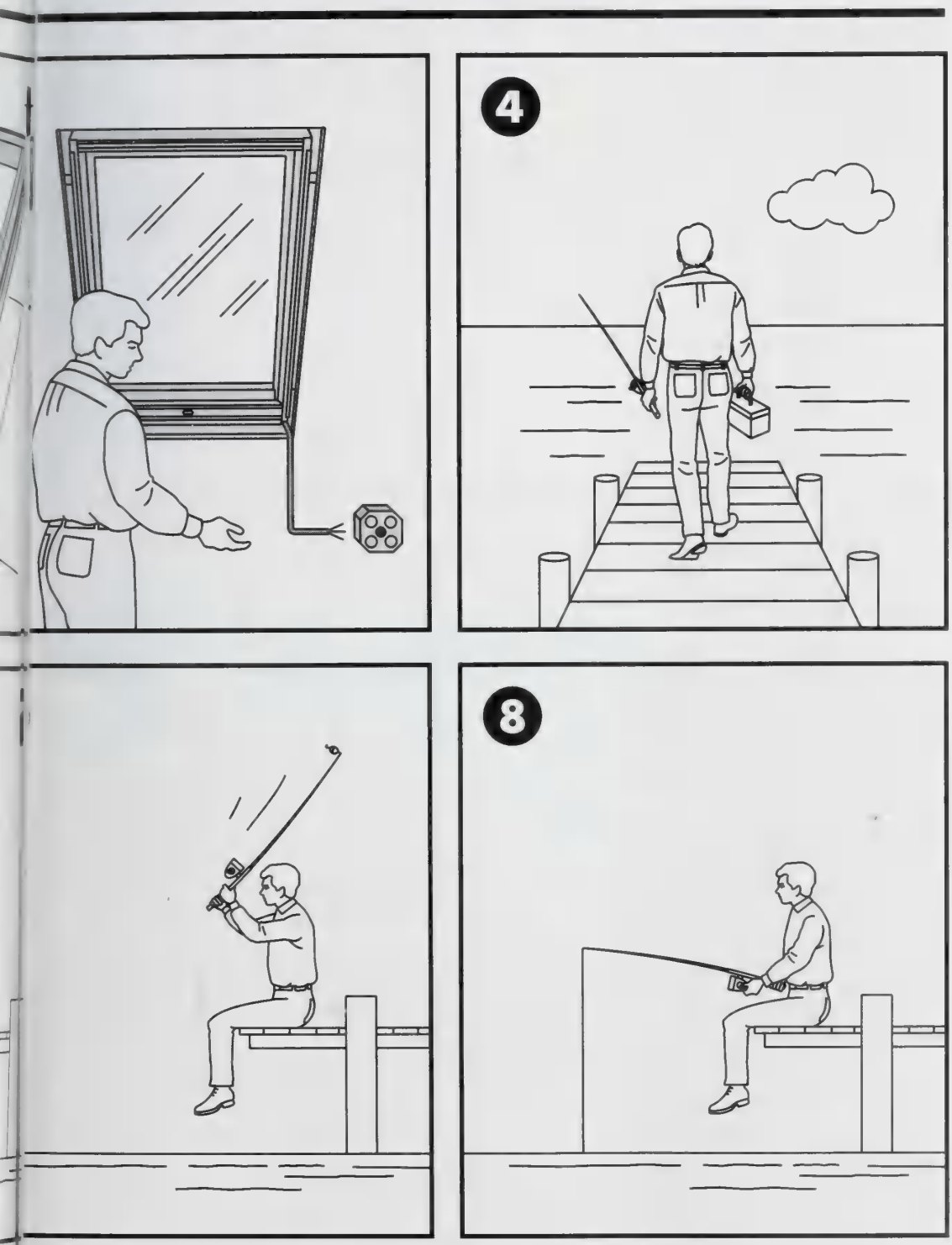








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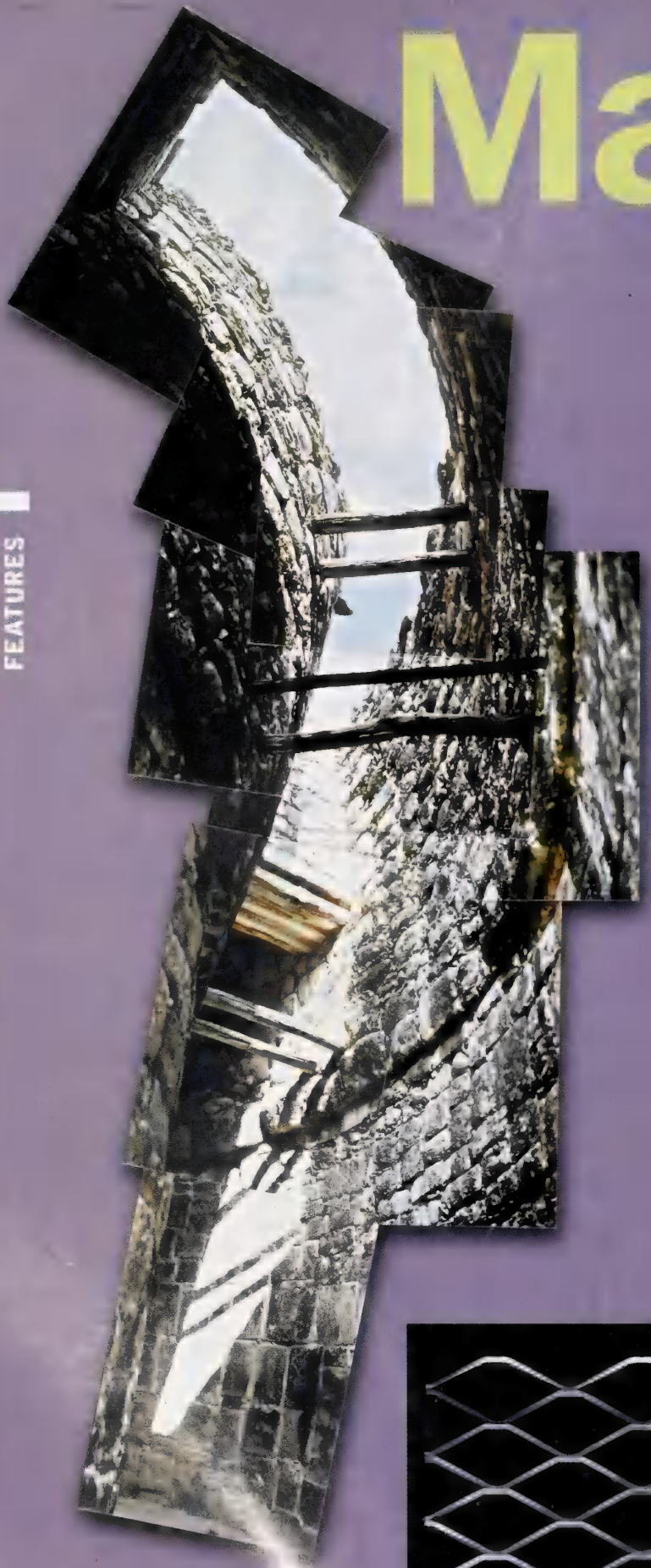
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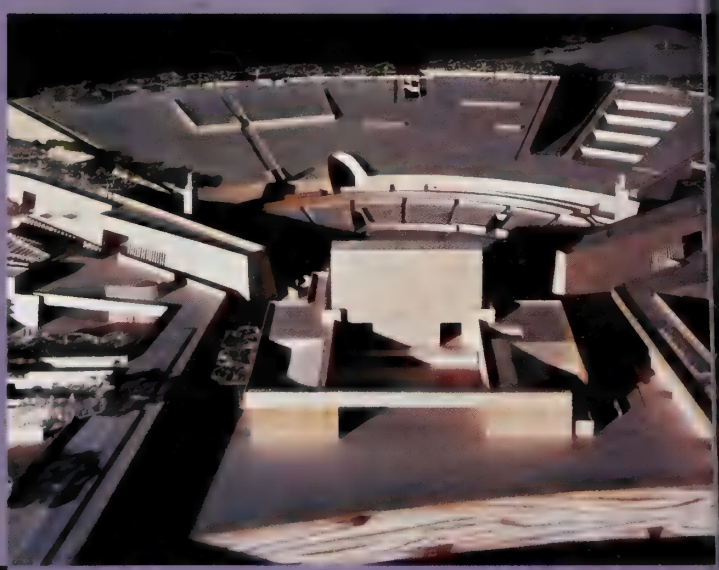
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CIRCLE 37 ON INQUIRY CARD

Material Affairs

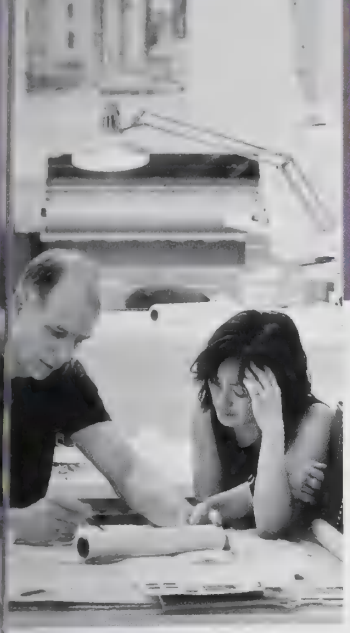
Tod Williams & Billie Tsien talk about going slowly and letting materials emerge from place, time, and process.







AMPHITHEATER, GUADALAJARA, MEXICO
Heavy walls set into the land evoke ancient Mayan structures (far left), while an expanded metal mesh (left) is used for the roof (right).



By Clifford A. Pearson

The works of Tod Williams, FAIA, and Billie Tsien beg to be touched. Walk up to their Neurosciences Institute in La Jolla, Calif., and you find yourself running a hand over the low-slung building's long concrete walls, which have been softened by heavy sandblasting to expose their blue-green aggregate. Or go inside their addition to the Phoenix Art Museum and compare the smoothness of a grand limestone stair with that of its cast-in-place concrete mate. The architects bring out the timeless qualities of materials such as stone, concrete, steel, glass, and wood, and they experiment with newer ones such as Homasote, plastic laminates, and resins. Theirs is a tactile architecture.

Having worked together since 1977 and been partners since 1986, Williams and Tsien (who are married to each other) have developed a practice known for its lyrical designs that bring out the humanity in institutional buildings and highlight the poetic in residential ones. Although many of their projects involve the arts, the architects have tackled a broad range of commissions. They have designed sets and costumes for the Elisa Monte Dance Company, an installation for Isamu Noguchi light sculptures, swimming pools for educational institutions, college dormitories, houses, lofts, and museums. They describe their work as emphasizing "the importance of place and explor[ing] the nature of materials." The mission statement for their office states, "Whatever we design must be of use, but at the same time transcend its use. It must be rooted in time and site and client needs, but it must transcend time and site and client needs."

Early in his career Williams worked for Richard Meier, while Tsien spent several years as a painter before completing her architectural studies. Today, the couple is finishing work on the Museum of American Folk Art in New York City and the Student Arts Center at Johns Hopkins University in Baltimore, both of which will open this year. In 2000 the Monacelli Press published a monograph on Williams and Tsien, entitled Work/Life. RECORD *senior editor Clifford Pearson caught up with the architects recently and spoke to them about materials and architecture.*

ARCHITECTURAL RECORD: *The cover of your new book has a close-up photo of the cast-metal panels that will clad the main facade of the Museum of American Folk Art on 53rd Street. The book cover and your buildings themselves send a message about the importance of materials. Could you explain how you go about selecting and using materials?*

TOD WILLIAMS: I've heard people say, "Oh, Williams and Tsien, they're experimenting with materials." They seem to think we go to the closet, set out a bunch of materials, and see what happens. We do almost the opposite. We try to hold the materials at bay for as long as possible. We keep asking ourselves what is the right material. And the right one is not found



El Caracol (above and opposite, far left), the Mayan observatory at Chichén Itzá, combines a sense of weight with the visual release of a spiraling stair.



MUSEUM OF AMERICAN FOLK ART, NEW YORK
The [illegible] elevation will be clad with cast-metal panels [illegible] that will not be uniform in their finish and will show variations in texture caused by the [illegible] forming [illegible].

by going into a box and just picking something out.

BILLIE TSIEN: It comes slowly. And requires a lot of very boring prob m solving. Someone in our office might say, "Let's try fiberglass." Tod a will reply, "Okay, then you'd better figure out how to make it fire-re r- dant." Once they make it fire-retardant, then it doesn't look like fiberg s anymore. So people in our office will send things to fabricators, askin if they would make samples. Things go back and forth, back and fo th. There's a great deal of struggle. It's not just picking stuff out of the st - age room. Materials emerge from a particular place and from some v y dull grunt work.

TW: We think about materials for a building as much from the insi e going out, as from the outside going in.

BT: We start with what is particular to a problem. For example, with t folk art museum, which right now has a very strong presence, we tried find a material that would be unique in a certain way and would hav

"WE THINK ABOUT MATERIALS AS MUCH FROM THE INSIDE GOING OUT AS FROM THE OUTSIDE GOING IN."

sense of the human hand being involved in making it. Now it's true th all manufactured materials have some hand involved, but it's not alwa so visible. The challenge was to establish a direct relationship betwe what you see and how it was made, so you make a connection betwe the hand and the finished object.

TW: And we're going to display the material in such a way as to show ho it's connected to the building. When the museum opens in Decembe everyone in the press will talk about the panels because they're out fron But the building will be important not because of the panels but becaus of the space-making inside.

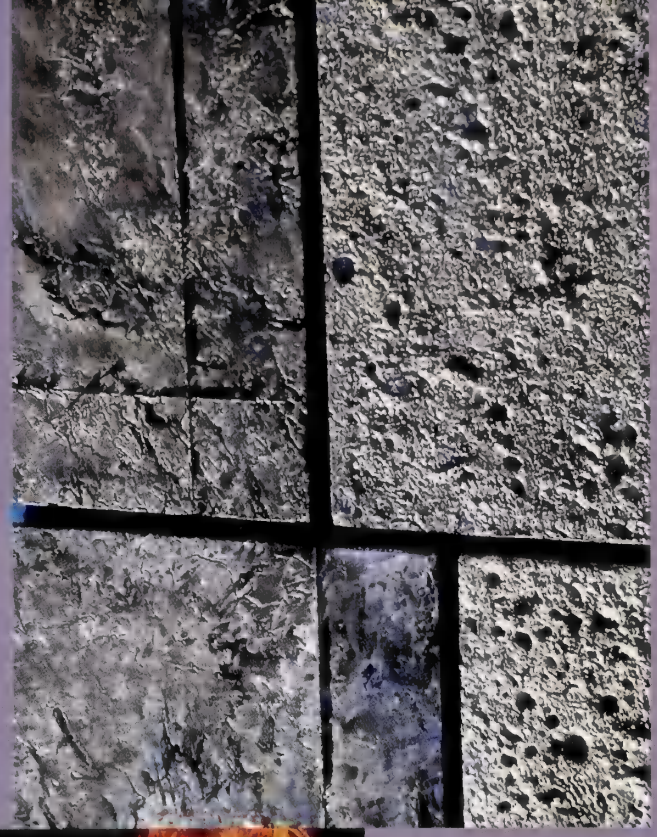
AR: *But the material, Tombasil, is fascinating. And so is the process o fabricating the panels.*

BT: The material fabrication is connected to the meaning of the museum This is a building that exhibits art by people who are not trained as artists. It's about a direct translation of vision through hands.

TW: We see the people at the foundry who made the panels, Peter Sylvester, Vinnie Nardone, and Peter Holmstead, as the artists, and we're the ones who assembled their panels for the facade.

AR: *How did you arrive at the decision to use Tombasil?*

TW: Our first idea was to try to cast a concrete facade directly on the street, to use the imprint of 53rd Street as the facade. That would have been extremely interesting, but rather disruptive to traffic. We didn't get a very positive response from the folk art board to the idea of making the facade of cast concrete. So we looked to other materials. We thought of aluminum because aluminum can have some sparkle and shine and it is ordinary enough to be affordable. But once we melted an ingot [of aluminum] and then cast it, it was no longer shiny. It became rather dull and didn't look like aluminum. So we said, "Let's look at something that's not aluminum and not copper, but maybe a mix of the two."



hrough a series of investigations, we learned about Tombasil, which is a orm of white bronze.

BT: It's used for boat propellers and fire-hose nozzles, so it can deal with veather. We took the Tombasil to an art foundry because they're used to lealing with . . .

TW: Odd requests.

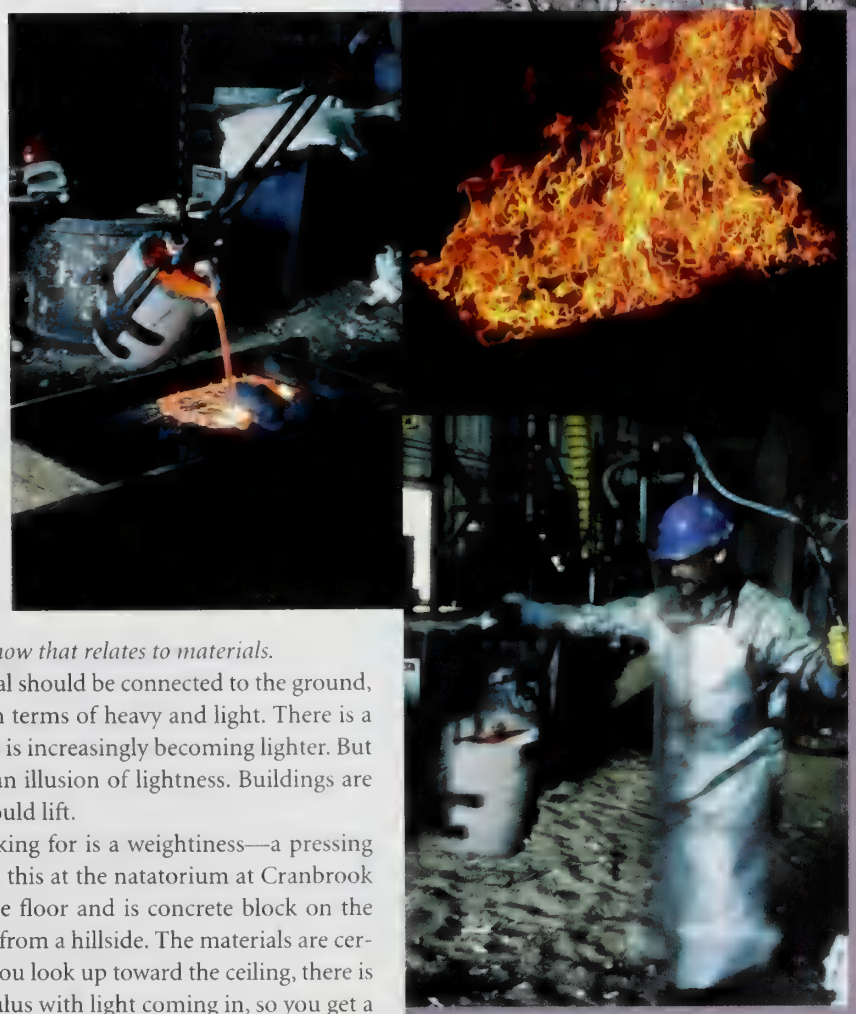
BT: We had to work out a lot of technical difficulties because when Pete oured the Tombasil on the concrete floor, the air in the concrete and the moisture caused tiny explosions. We destroyed the floor, but we had some nteresting panels. Eventually, we figured out how to pour and cast the naterial in a controlled way.

AR: *That's a lot of work to get the right material. Is this something that a typical architect can afford to do?*

TW: Because this is a public, spectacular building, our process was perhaps more intense than usual. But I think in various ways, all architects can do it. And it doesn't have to stop here with this project. It's a baton that one carries and passes to the next architect. Just as titanium panels didn't start with Frank Gehry and shouldn't stop with Frank Gehry.

AR: *Are there certain materials you would like to work with that you haven't yet?*

TW: Every one on the surface of the earth. They're all interesting and we try to learn from other architects. We go down to Tucson and see Rick Joy's house and we're envious. We go to see Peter Zumthor's work in Switzerland and we're envious. And it's not just the Tombasils and titaniums that are interesting. Something as common as house paint can be exciting when polished to a mirror finish—as we saw recently in a piece of art in the show *Open Ends* at MoMA.



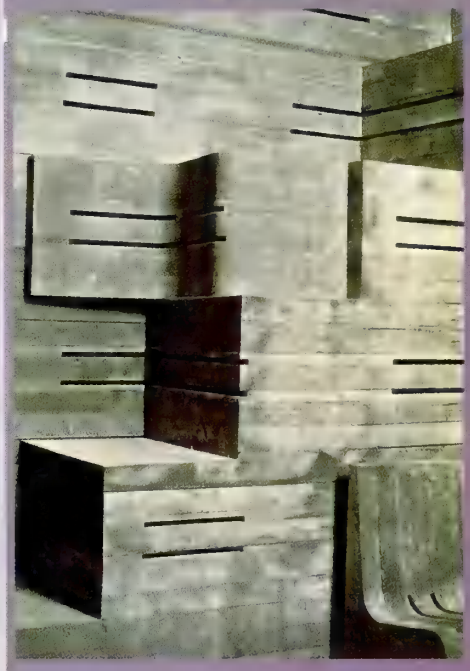
To create the panels for the folk art museum, skilled workers at the Tallix foundry ignite a gated form placed directly on the concrete floor so the mold's resin hardens. Then they pour molten Tombasil (a form of white bronze) into the form. As the metal cools, eruptions of air and moisture leave their imprint in the panels (top), creating a rich and subtle variety of finishes.

AR: *You've said your work must be rooted in time and site. Explain how that relates to materials.*

TW: We feel that buildings in general should be connected to the ground, the earth. We think of buildings in terms of heavy and light. There is a notion these days that architecture is increasingly becoming lighter. But I don't believe it one bit. It's just an illusion of lightness. Buildings are heavy. I haven't met a building I could lift.

BT: I think what we're always looking for is a weightiness—a pressing down—and then a release. We did this at the natatorium at Cranbrook [School of Art], which has a stone floor and is concrete block on the inside. The pool itself is excavated from a hillside. The materials are certainly about durability. But when you look up toward the ceiling, there is that very intense color and the oculus with light coming in, so you get a





DOMESTIC ARRANGEMENTS EXHIBITION
Part of a series of exhibitions organized by the Walker Arts Center in Minneapolis in 1990, the show featured innovative use of Homasote, a tackable material made from recycled post-consumer waste paper. The architects showed how elegant the material could be.

sort of flight. It's both roots and wings. We know that materials can be evocative; they can bear emotional weight.

TW: We're doing something similar with our amphitheater in Guadalajara [JUNE 1999, page 136], which is pushed into the land.

BT: It has the sense of a giant earthwork with battered walls, which are rooted, of course, in the Aztec and Mayan traditions there. We're trying to

"THERE IS JUST AN ILLUSION OF LIGHTNESS. BUILDINGS ARE HEAVY. I HAVE NOT MET A BUILDING I COULD LIFT."

think about materials that make sense in the place where we'll be building. This is the first time we're working outside the U.S., so the architecture has to have a sense of the climate and be appropriate for the place.

TW: The seating is ground-based, so it's seen as a kind of land form. And there's a very big roof that is both light and heavy. On the underside of the roof, we're using an expanded-metal mesh that we've seen in Mexico as a fencing material.

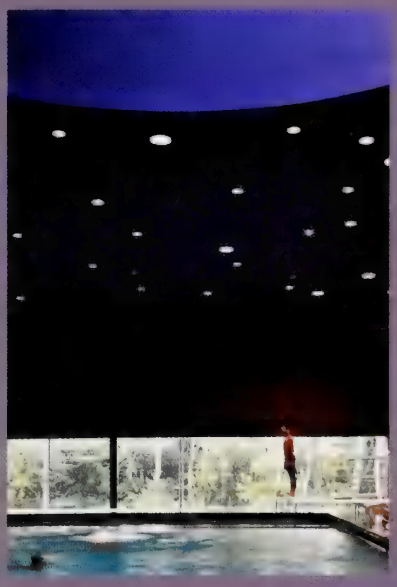
BT: The stuff is really cheap, very crude, and made in Mexico.

TW: The material itself weighs seven pounds per square foot or so. If you look at it straight on, it's maybe 85 percent transparent. But from an angle it looks almost solid. So is it light or is it heavy?

BT: An important value for us is drawing together all of the various elements of architecture—materials, space, form, light, color—and producing a unified whole. We're not at all interested in producing a collage. People's lives are the collage and you don't need a collage on top of a collage. You need to provide some sense of wholeness so the kaleidoscope can occur within it.

TW: The issue of the hybrid is interesting. It's not wrong to recognize that odd partners can come together. We're a perfect example of that ourselves. But I think it's very, very important that one show restraint in order to let certain things come to the fore and have some force and authority. ■





CRANBROOK ATHLETIC COMPLEX
An addition to the Eliel Saarinen-designed campus for the Cranbrook School in Bloomfield Hills, Mich., this natatorium complements "heavy" materials such as glazed brick (far left), concrete block, and stone with a sense of release created by large panes of glass, an oculus skylight, scattered downlights, and a sky blue ceiling.

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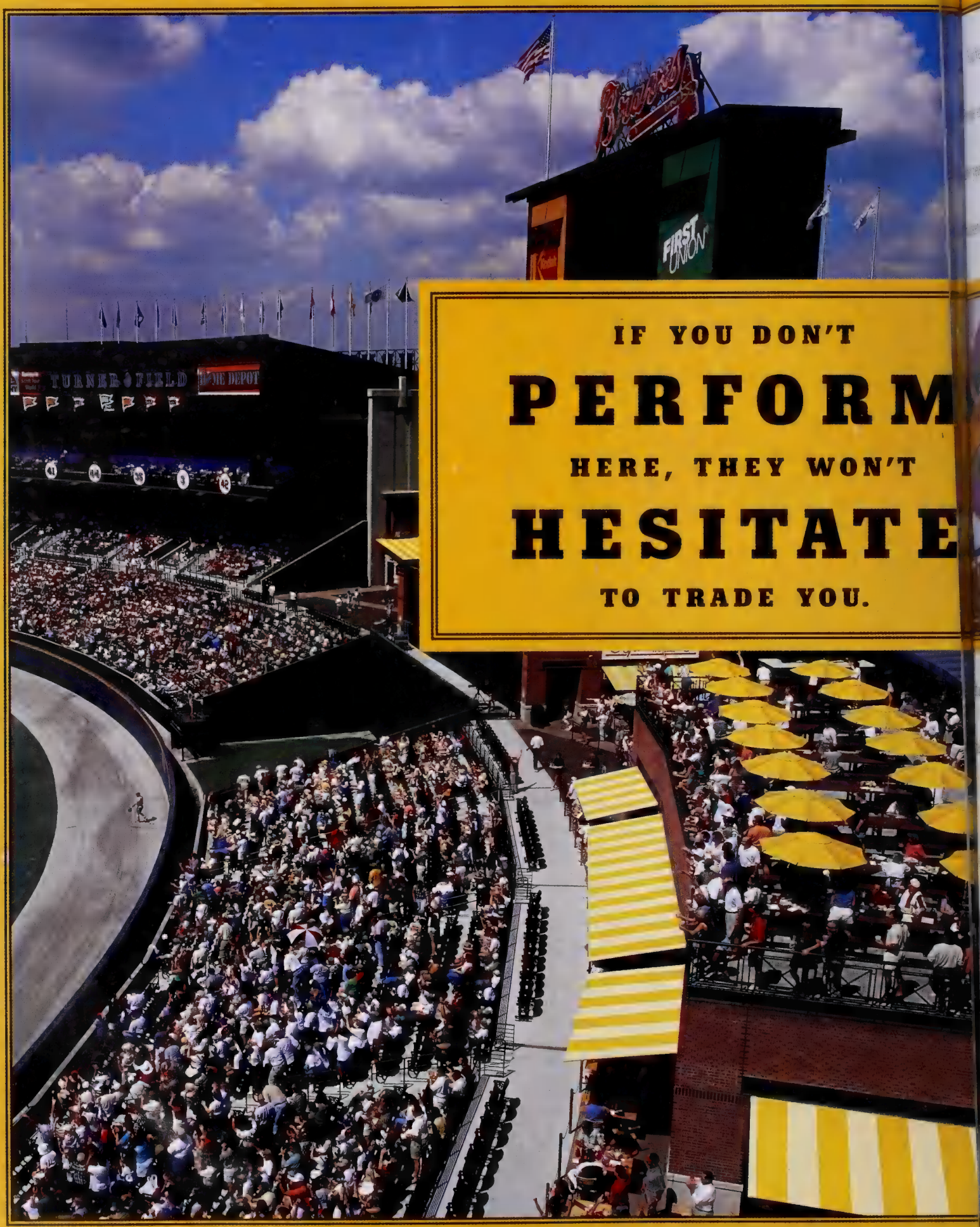
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CIRCLE 39 ON INQUIRY CARD

Lessons from America's Best-Managed Firms

PART 2

Marketing: Building your firm's incredib

By Jane Kolleeny and Charles Linn, AIA

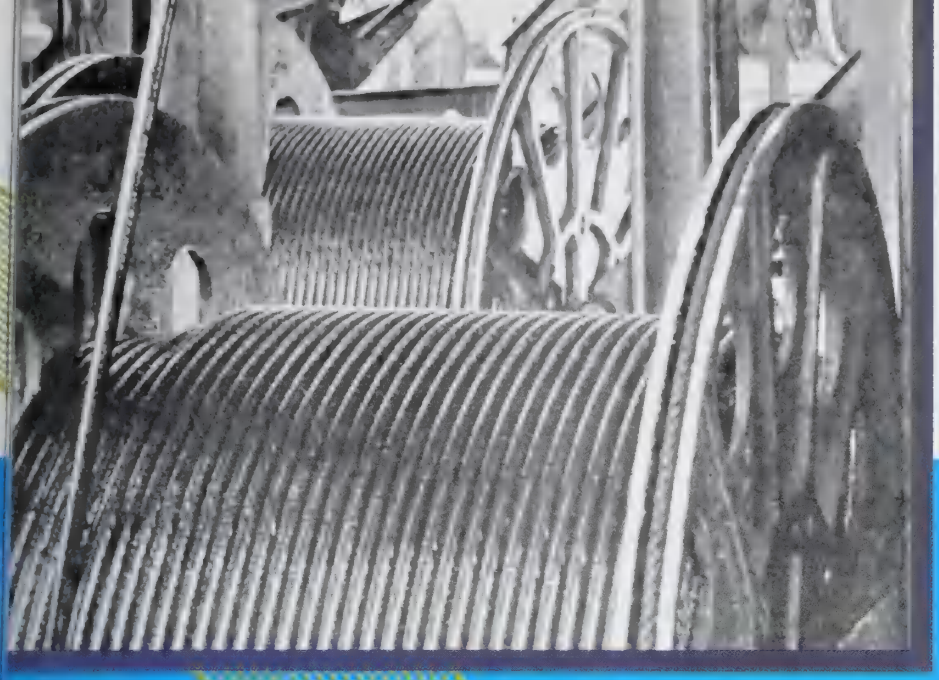
The sign of a successful marketing effort is that your firm is getting profitable, desirable new work. To create that kind of success, firms must set themselves apart and gain recognition from clients. It sounds simple, but is it? Maybe your firm has a good track record for getting shortlisted, but you fail to get selected over and over again. Why? Or, you seem to be the last one to find out about exciting new work—you should have been positioning yourself with the client far before the word hit the streets—how did you miss it? Or, you're tired of spending a fortune getting projects professionally photographed, submitting them for publicity and awards with pitiful results. How can you ever make the jump to professional-looking proposals like the competition's with the technology you have? Everyone is talking about the joys of using digital libraries to sort and access their images, and you hardly have a slide library. In terms of human resources, infrastructure, and expense, the idea of improving your marketing is frightening, yet you must move forward.

Most firms share these laments. But there is no single solution, since no two architectural offices are alike and the services they offer vary, as do the talents, interests, and personalities of their people. Nevertheless, certain characteristics are common to all successful marketing efforts. In this second part of our series, we focus on fundamentals: the strategic planning that stands behind a marketing program and how this informs the entire marketing process. We touch on public relations, technology for marketing uses, successful strategies to win work, and various forms of organization.

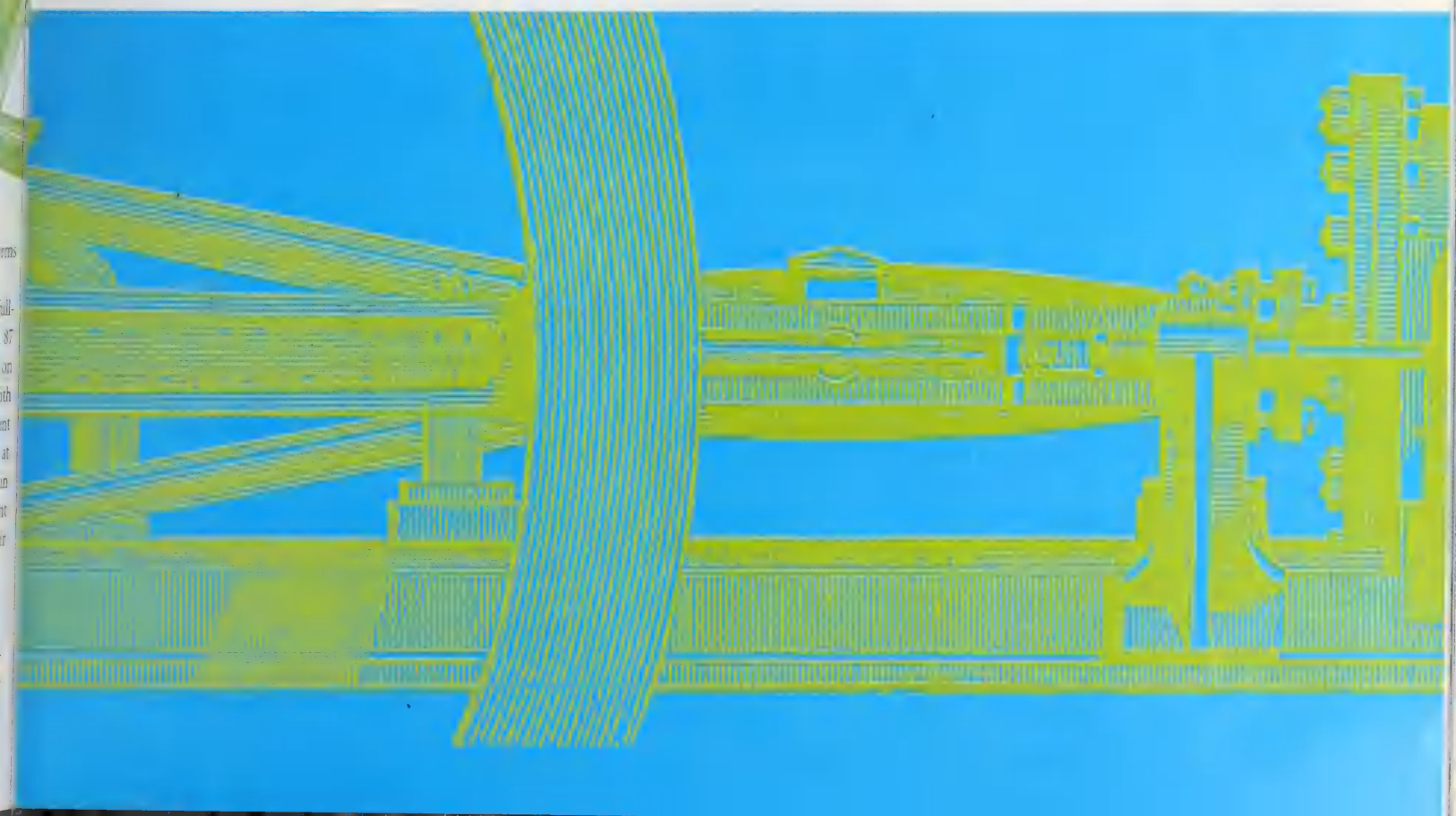
Today, practically every large- and medium-sized firm has full-time marketing staff. According to the AIA's *Firm Survey 2000/2002*, 87 percent of firms with 50 or more employees have a marketing person on staff, and 71 percent of these have two or more. Over half the firms with 20 to 49 employees have someone engaged in marketing, with 20 percent reporting two or more. It is notable that 5 percent of total staff added at firms in 1999 was marketing staff, a higher proportion than was hired in subsequent years. This may suggest that firms anticipated that the recent economic boom was leveling off and were preparing to enhance their future marketing efforts.

Strategic planning

How do you get started? Strategic planning forms the basis of any marketing effort and is necessary to successfully brand and position the firm. The firm's principals and managers must take a long, hard look at where the



harketing machine





STRATEGIC PLANNING IS THE BASIS OF ALL MARKETING. WHEN IMPLEMENTATION IS ATTEMPTED WITHOUT IT, TIME, ENERGY, AND MONEY WILL BE WASTED.

firm really is—assessing the current mix of work and forecasting the viability of these markets for the future. Is the firm client-driven or market-driven? What are the firm's past successes and failures, and what goals realistically capitalize on its strengths while remaining honest about its weaknesses? A planning process will typically occur annually, reviewing the previous year's plans to see if the firm is on track, and devising a strategy for the coming year. Sometimes serious planning will be reserved for a management retreat, with a specialized consultant overseeing the process.

"When firms do not understand what makes them different, they have a difficult time creating a competitive edge," says Richard Burns, a consultant with PSMJ (Professional Services Marketing Journal) Resources. "Architecture, one might argue, is a parity product. Any number of firms can provide the service. Being able to clearly identify how a client will derive greater value by using your services than those offered by your competitors is fundamental. However, most firms can't quantify these attributes when it comes to describing their own practices."

Once a sense of identity and direction has been agreed upon, a firm will engage in branding to express the benefits you offer your clients while instilling those values in the firm internally. Branding spreads into all of the firm's public relations and informs the positioning activities of business development and marketing.

CAVEAT: Strategic planning doesn't always succeed. Sometimes firms attempt implementation without assessment, which is time-consuming and can reveal serious shortcomings that firms wish to ignore. In other cases, assessment takes place, plans and budgets are developed only to be shelved because the firm's principals aren't committed to them and because imminent deadlines became an excuse for brushing them aside.

One marketing director from the East Coast, for example, had earned his stripes, developing a marketing plan that was simply ignored. The firm's partners continued to pursue their own marketing efforts as "Lone Rangers," going in different directions. The associates and marketing staff broke into factions, taking sides with one or another of the partners, working against each other rather than as a team. When direction and responsibilities become blurred, it shows up in every step of the marketing process, confusing staff and clients, to whom you especially wish to be clear.

Laura Stillman, marketing principal at Flad and Associates in Madison, Wisc., has found: "The happiest marketers work in firms where marketing is a strategic function and business strategies are clearly defined and followed. Usually the most dissatisfied marketers work in firms where multiple principals give conflicting directions, and where marketing is a support function. In those firms, marketers generally have less experience, quickly burn out, then go back to school or pursue other careers."

Sales and business development

Once a marketing plan has been established as a foundation, it should inform the business development or sales activities, which involve prospecting for opportunities. Prospecting includes market research and networking, which ultimately leads to contact with potential clients, and it often results in valuable information that can lead to advantageous teaming arrangements in pursuing new work.

Many firm principals choose to undertake these activities themselves and others abhor the task, leaving it to the marketing staff. "While these functions are crucial, not every principal or associate will be comfortable performing them. Principals should be sure that they have people who enjoy doing it as part of the core management team and then support them," says Richard Staub, a New York City-based marketing consultant.

Business development professionals obtain leads from other consultants, existing clients, or influential contacts. They also use references such as the local, state, and federal registers, which list requests for proposal/qualifications (RFP/RFQ) as well as Dodge Reports, Construction Marketing Data's (CMD) Early Planning leads, local construction trade newspapers and other publications (the AIA's Web site is a great source). Participation in industry activities and trade organizations is also important.

Checklist for the interview

There is nothing worse than showing up for a presentation to find that in the rush something crucial has been forgotten. Here is a list to review when you prepare for the big day.

- Has the firm designed its interview around the client's stated or implied goals? Did the firm obtain plans, photos, or supporting documentation to help compose the presentation?
- What is the appropriate media for the presentation? If more than one medium will be used, is there redundancy in the information?
- Get names and titles of the selection committee. What is the percentage of users to owners? Is the selection "process-driven," by its future users or "trustee-driven," that is, directed by the building's owners? Does the presentation address this?
- Will the presentation hold the audience's interest?
- Did key speakers rehearse the presentation and does everyone have something worthwhile to say?
- What degree of effort will be put into the development of interview materials and is this commensurate with the chances of winning and/or fee potential?
- What are the characteristics of the room and is there a place to assemble and rehearse?
- If the client provides equipment, be clear about what it is and familiarize yourselves with it. If bringing your own equipment, check it out first—did you remember extension cord or projection lamps?
- Can the presentation materials be transported and did you bring materials to assemble and disassemble them?
- Has the firm scheduled an early flight in case there are delays and are essential materials packed so that they can be carried on the plane?

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Some firms attend conferences sponsored by associations serving a variety of clients such as museums, historic buildings, libraries, higher and lower education, facility managers for a number of industries, the federal government, and the developer community. Here, they reaffirm existing client relationships and aspire to cultivate new ones. Most of these conferences offer the additional opportunity of the trade show. Some firms are now committing part of their marketing budgets to cover the cost of having booths at trade shows that serve their market sectors.

One effective way to get recognition at a conference is to present a paper or give a lecture. According to Christa Mahar, marketing director at Graham Gund Associates, in Cambridge, Mass., "Giving a presentation with a client about an innovative practice you've developed together or a case study can be extremely beneficial. This activity gives your principals and senior staff the opportunity to contribute their time and expertise to show how the firm has worked with and supported its current clients."

CAVEAT: Trade shows may draw attention better than a pretty face can. Some architects think that they can get new work by hiring a persuasive, charismatic, or attractive salesperson to woo their clients. This can backfire and undercut the firm's integrity. Lest we forget, prospective clients are often rookies in understanding architecture and the building process and are relying on the architect to educate them. Or they may be sophisticated enough to know when someone is trying to snow them. This is not to say that compelling people should never be hired in marketing positions. Persuasive power must be accompanied by an understanding of the client's needs and of your firm's services and by the ability to articulate that understanding.

Winning work

Perhaps the most common and essential marketing activities are those that occur after a lead lands on the doorstep. The "winning work" process begins with the receipt of an RFP/RFQ. The firm must first consider the likelihood of being shortlisted but more specifically being selected (see "The Go/No-Go Questionnaire," above). If the prospect seems good, examine the complexity of the response, the strengths of the firm's experience and staff, and then assemble a strong and responsive team of consultants. Even proposals can involve considerable research into the project (see "Strong Research is the Key to Winning Work," page 82). "Clients are the best source of information, and yet firms are reluctant to ask for feedback and help. My best efforts have always been preceded by research," says Karen Courtney, director of marketing, NBBJ, Seattle.

"The sharp marketer organizes the proposal by the evaluation criteria cited in the RFP, which is often the client's wish list, to show that a firm thinks like the client!" says Lori Miller, marketing director of Perkins Eastman Architects, Pittsburgh. These days, with desktop publishing and in-house production, proposals can be custom-designed quickly and beautifully. Everyone agrees that it is best to create an attractive proposal, short and to the point, responsive to the client's concerns, well written and interesting. "In essence, you want to get the reader, and ultimately the decision maker, nodding their heads in agreement with what you are saying as they read it. If your proposal does not address 'the things that keep the client awake at night,' you have lost an opportunity to connect with that client," says Sherri Bowman, vice president, Ewing Cole Cherry Brott Architects, Philadelphia.

CAVEAT: Firms are guilty of impulsively responding to RFP/RFQs that are out on the street. Indeed, go/no-go strategies (see sidebar above) are employed in only 22 percent of the firms in the country, according to the *ZweigWhite 2000 Marketing Survey*. Instead, firms need to build long-term business relationships in target markets. It is also important not to waste the time of a prospective client by submitting a poorly composed document—a mistake that may block any future hopes of doing business with them.

The Go/No-Go Questionnaire

Give 1 point for each "yes" answer, 0 for each "no." If the total is 7 or over, it is considered a "go"; if less, a "no-go."

- Did the firm hear of the opportunity from an inside source (yes) or publically (no)?
- Do we have an existing relationship with the prospect?
- Will the project fall into one of the firm's primary markets?
- Is the fee commensurate with its technical complexity?
- Do we know anyone with influence on the selection committee?
- Are marketing and technical staff available to meet the necessary time commitments to respond to the prospect?
- Is this a complex or simple selection process? Will it require a high or low investment in marketing? A low investment is a "yes."
- If the firm needs a local partner, does it have existing relationships in the area?
- Will travel expenses incurred on the project be worthy of the profits or other goals, such as getting more work, that might be achieved?
- Does the firm have something strong to show at the interview?
- If selected, will the firm have the staff needed to service the project?

IF YOU CAN'T PREPARE A GOOD RESPONSE, IT IS BETTER TO PASS ON AN RFP/RFQ THAN TO WASTE A PROSPECTIVE CLIENT'S TIME WITH A BADLY DONE PROPOSAL.



The interview

When presenting yourself face-to-face with the client, you want to establish and convey the special chemistry of your team. This most important marketing opportunity is where the architect often closes the deal and the people on the team can really shine. According to a recent study released by SMPS, capability, chemistry, and client orientation are the three primary issues on the minds of clients, with chemistry rated as most important. Given this scenario, it behooves the architect to use whatever resources are available to enhance the human dimension of the interview.

These days, PowerPoint has become the standard fare in presentations. But, "It's not the tool that sells, it's the person," cautions Lisbeth Quebe, director of marketing services at RTKL, Chicago. Scott Smith, a principal at Sasaki Associates' San Francisco office, says, "While Powerpoint does have strong virtues, we now evaluate its effectiveness for specific situations. Visually, projected digital images still fall short of what other means can achieve. When I show a client our archi-



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PRESENTATION TOOLS ARE BECOMING INCREASINGLY SOPHISTICATED, BUT IT'S STILL PERSONAL CHEMISTRY THAT SELLS.

tecture, I want its brilliance and clarity to engage them, and I continue to rely on slides for many presentations."

CAVEAT: Conducting rehearsals and training staff to speak simply and articulately in interviews are necessary steps that are often neglected. Architects make the mistake of favoring personal statements about their work over investigating what the client has asked for. Another common problem is the tendency some architects have to engage in intellectual grandstanding, speaking at length in highly abstract or technical language, not to mention usurping other team members' contributions and interrupting the overall rhythm of the presentation. If you don't get the job, request a debriefing from someone on the selection committee. This will help your firm identify its weaknesses and hone its skills, so you will be less inclined to make the same mistakes twice.

Remember that winning the job doesn't mean the job will be a success. Service and follow-through are crucial if a firm is interested in developing a relationship that will lead to repeat work.

Public relations

While it may sound obvious, many architects would benefit from a clear definition of who they are when communicating their image to the public—this what we broadly call public relations. Marketing and business development are about positioning—winning work through the pursu of specific targets; PR is about branding, establishing your firm's ima and spreading the word. In addition to performing the tasks required get published in the trade press, newspapers, and other media, PR duti include managing your firm's Web site, photo shoots, award submission firm newsletters, special events, and advertising. PR activities usually pe formed by the architects themselves include serving on design jurie writing for journals, magazines, or books; belonging to professional an charitable organizations; and participating in leadership and speakin roles at industry events.

Why does a firm want to get published? It provides personal sa isfaction to the hard-working architects, offers them opportunities fc exposure that can lead to new work, and shows that a firm can compet meaningfully with its peers. How does a firm get published? According t Nancy Fishman, marketing principal at Zimmer Gunsel Frasca Partnershi in Portland, Ore., "First, a firm must do good work, and understand that what editors are looking for. Next, one must understand the process of get ting published. 'Selling' is not an appropriate approach to an editor, bu rather you present story ideas that are interesting and relevant to their read ers. Supply editors with well-written materials, good drawings an photographs, organized in a professional, easily readable way."

Assemble awards binders so the images tell a story. According t Jennifer Greene, marketing director of Kliment and Halsband Architect in New York City, "If the nature of the project isn't apparent from th drawings and photos, then no amount of text will help you understand it You will be lucky if a jury even reads your text." Her boss, Robert Kliment was Chair of the 2000 AIA Honor Award for Architecture jury. It receive over 400 submissions and had a day and a half to pare them down to 30 The average time allotted to a submission was 30 to 45 seconds.

High-quality photography is of the utmost importance for doing publicity, winning work, and keeping records. However, some firms find the expense too much to bear. "You can save money by arranging to share with the project's owner, engineers, and other consultants. But many photographers add a 'sharing' fee into their contracts and some may require the firm to order all prints from them. Read the contract carefully," says Veda Solomon, marketing director at NBBJ's New York City office.

Strong research is the key to winning work

Below are examples of questions one might ask when pursuing a prospect:

- Does the client have a budget for the project or a capital improvement plan in progress? Does the budget cover total project or construction costs?
- If there was a study prior to the RFP, who did it? Is that firm submitting? And is there a copy available?
- What type of fee will be awarded and is there a scale?
- How many other firms received the RFP? Who are they? What are their strengths or weaknesses?
- Are maps, photographs, or other data available?
- Of those that received the RFP, how many are national, in-state, or local firms? Which have previous experience with the client?
- What is the approval process for a project to proceed? Are state, local, architectural, or an institution's review boards involved?
- Are other consultants (such as campus planner, city planner, city architect, or landscape architect) involved and in what capacity? Try to interview them regarding the project.
- Where are the funding sources—a donor, bond referendum, legislative appropriation, etc.?
- Does the client have a preference for engineers? Such engineers can be a great source of information on the client.
- What architects has the client worked with recently? Was the experience favorable or unfavorable? Are these firms submitting?
- What is the anticipated schedule for obtaining funds for the project? Is there a fund-raising campaign under way?
- What type of facility does the client favor stylistically—conservative, modern, classical, signature, etc.?
- If teaming with a local is necessary to selection, do research to determine the appropriate local. Roughly speaking, what would the division of work be?
- Go to the client's Web site to do research. Can you find images and logos for use in the submission?
- See the Web site of the Chamber of Commerce in the city where the project is located to familiarize yourself with the demographics and issues in the area. Does the project have links to the larger community?
- Get an idea of the date for the interview early on. Are staff members available to attend?

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CIRCLE 42 ON INQUIRY CARD



MOST MARKETERS FEEL THAT BUSINESS DEVELOPMENT SHOULD BE DONE IN-HOUSE. BUT IT'S BETTER TO HAVE AN OUTSIDE CONSULTANT THAN NO ONE AT ALL.

And how about doing a monograph? It seems these days every firm has one—it's practically a prerequisite of getting noticed, especially after your firm has a number of successful projects under its belt. Sometimes it is the only way some projects will ever see print, if they were never published in the trade press. We explored some of the reasons for the proliferation of these books. Cooper Robertson and Partners recently decided to publish a monograph after 20 years in business. Communications principal Karen Cooper says, "First, we wanted to document the work in a cohesive way; second, potential clients ask for our book. Before we had one, they wanted to know why we didn't, as if that had become the test of whether a firm was 'real.' Third, the staff wanted it so that the evolution and implementation of the firm's work could be understood."

However, most "vanity" publishers require a firm to commit to buying several thousand copies of the monograph, and there are costs associated with writing and editing the copy, doing photo research, and obtaining rights. It can often take a staff member years to complete such a task, if you are lucky enough to have someone to do it. Eric Mott of Civitas, Denver, former national president of SMPS, wonders if the expense is worth it. Sure, the result is attractive, but is it simply an expensive ego boost for the firm? Be sure the cost can be justified in terms of your marketing objectives.

Finally, PR is not just press releases, publications, and training seminars, but it is image-making in its entirety. For example, answering the telephone can express an attitude of competence and cooperation, or it can completely turn off a potential client or member of the press. "We insist on a live voice instead of voice mail when greeting callers to emphasize our personalized service," according to Karen Cooper.

CAVEAT: Many firms feel that unless they are among the most recognized, getting published is too difficult to be worth the trouble. Architectural publications are limited, but individual market sectors have their own trade journals. Both these and local newspapers reach prospective clients, and impressing them is more important to your practice than showing off to your peers. Seek publication where it will be of most benefit, cultivate relationships with those working the appropriate beats, be realistic about the possibilities for publishing your work, and educate yourself on what to emphasize in your press releases. See "Submitting work for publication" on the Web at architecturalrecord.com.

Marketing infrastructure

This includes project and client databases, electronic image databases, slide libraries, photo collections, and equipment for color output and binding. These tools support the rapid creation of in-house marketing-communications materials and proposals. The database requirements of design firms are surprisingly large and complex. Marketers will want to track and sort past projects, store boilerplate text for staff and consultants' capabilities, previous proposals, and manage images while also tracking contacts, "hit rates" for making short lists and winning jobs, leads, and more. In larger firms the complexity is compounded. (For more on this topic, see , "Technology Tools for Marketing," [Digital Architect, JUNE 2000, page 190]). For more information on digital image databases, see "How to Manage Your Images," on page 164 in this issue. We will address in-house publishing systems in a future Digital Practice article.

Organizing your marketing department

It is usually the size of a firm that determines if marketing activities will be conducted in-house or by outside consultants. For modestly sized firms with fewer than 20 employees, it is often not economically feasible to employ full-time, in-house staff, so using consultants makes sense.

Outside consultants can do some things better than others: For example, public relations, strategic planning, marketing research, Web site design, database setup, or creation of copy for a brochure. However, the general task of producing proposals should usually be performed in-house. One novel approach that works for small architectural firms is used by the Marketing Partnership, a consultancy serving New York and New Jersey. Acting as interim marketing directors, they supervise and train non-marketing staff assigned to marketing activities, as well as full-time or temporary marketing personnel. The Partnership does not focus on PR or business development for its clients, however, as it might pose a conflict of interest in their client mix. Hugh Hochberg, president of the Coxe Group in Seattle, suggests an alternative: "Architects can work with a PR firm that aligns itself within a specific market sector, such as one that specializes in health care, which can represent many constituents within a field."

Most marketing professionals feel the business development function must remain part of in-house staff. "I have never seen a successful outcome from involving consultants in business development, other than in a research capacity," says Joy Fedden-Habian, a New York City PR consultant. Linda Eklund, a business development consultant who successfully performs this function for two to three noncompeting firms, shows another side to the argument. "My observation is that business development is better done by a consultant than by no one at all. And it is well practiced by a consultant who is dedicated to a long-term relationship with the architect."

Larger firms should also consider whether their marketing might be best organized to parallel the firm's organizational model. Given the niche nature of the market today, some firms find it best to divide into camps according to building typologies—education, retail, public—with a principal heading up each. "Thus each principal becomes an expert in a field and can focus all marketing and business development efforts within this one area. Without the focus this model offers, it is virtually impossible to really dig one's heels into a market and develop name recognition within the prospective client base," says Joy Fedden-Habian.

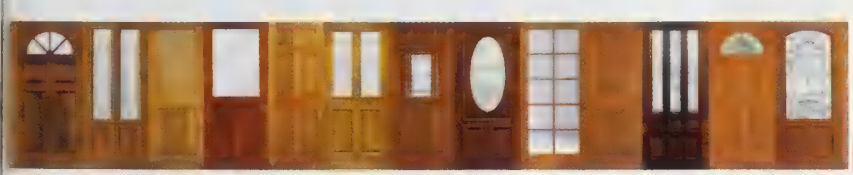
Scott Smith says, "Sasaki's 32 partners work with specific client types and develop a practice base within those areas. The marketing activities are organized around these client groups, which include public agencies, corporate entities, universities, and one international group." ■

In May, we will conclude the series by discussing two perennial topics: how firms expand into new markets and how to find the right person for your firm. We will also look at how the Web is forcing the culture of marketing to change yet again and a new generation of architects who promote themselves without hesitation. Wrapping it all up, we will look at how our educational institutions are teaching marketing today.

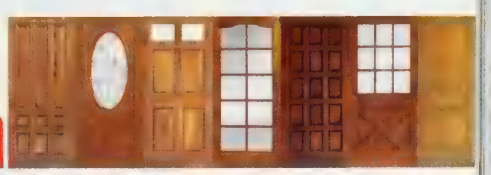


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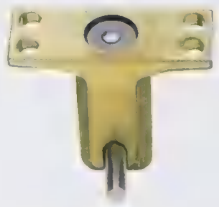
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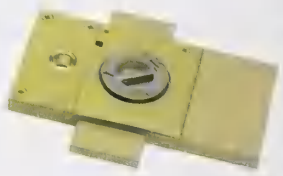
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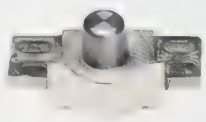
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MATERIALS...

What's behind those new glass curtain walls and eye-catching surfaces

With the Modern movement's taboo against ornamentation, architects lost one of their traditional tools for expressing emotion and establishing character in their work. So they fell back on other strategies—such as sculpting form, articulating structure, and orchestrating procession through space. But the underlying reasons for ornamentation didn't disappear and, as Freud might have predicted, they found expression in a variety of alternative guises. Think of the sumptuous use of translucent stone in Gordon Bunshaft's Beinecke Rare Book Library at Yale University or Frank Gehry's exploitation of titanium, and you'll see how modern architects have employed materials as professionally acceptable ways of dressing up their buildings and dazzling the eye. No need for gargoyles or carved friezes if you can get people's attention with magnificent stone or brawny concrete or high-tech materials originally developed for spaceships.

Recent developments in computer technologies and renewed interest in Modernism have focused greater attention on surface in architecture. Whether they are bulging blobs or precise boxes, many of the latest buildings make their skins the stars—requiring special care in the selection of materials. Of course, one of modern architects' favorite materials has always been glass, the better to express the lightness of a curtain wall or connect indoors with outside. Several of the projects shown in this issue use glass as a featured element in their designs. For example, TEN Arquitectos wrapped an old office building with a new glass skin to help create an up-to-the-minute hotel in Mexico City, while Foster & Partners captured a remarkable new space at the British Museum by covering an old courtyard with an ethereal glass roof. In a show of bravado in the desert, Richard Meier & Partners designed a giant glass box for Phoenix's new federal courthouse and made the crystalline structure work as an energy-efficient show-stopper. In its modern palace for the regional government of the Canary Islands in Spain, AMP Arquitectos took a very different approach to materiality, forsaking transparency for a muscular use of concrete and stone.

SOME OF THE EXCITEMENT OF MATERIALS COMES FROM USING THEM IN INNOVATIVE WAYS AND STRETCHING THEIR CAPABILITIES.

Some of the excitement of materials comes from using them in innovative ways and stretching their capabilities—for instance, erecting a glass wall 115 feet high and 350 feet long (as Meier did in Phoenix) or making an 800-ton glass-and-steel roof appear to hover (as Foster did at the British Museum). Another way of handling a material is to highlight its essential nature—making concrete look and feel as strong as possible, for example, as AMP did in the Canary Islands. When used effectively, these materials function in conjunction with structure, space, and procession to make architecture work in three dimensions and engage all of our senses. *Clifford A. Pearson*

WWW For more information on the projects profiled in the following pages, including details of building technologies used and more on the people and products involved, go to **www.architecturalrecord.com**

Richard Meier adds crystalline glass to his white, linear, modernist vocabulary for the PHOENIX COURTHOUSE

By Suzanne Stephens

There is something peculiarly defiant about designing a glass box for a U.S. courthouse in a hot, dry climate. In Phoenix, Ariz., after all, summer temperatures can soar to 122 degrees. There also seems to be a certain bravado in having glass walls rise to a height of 115 feet, extending 350 feet along one side and 150 feet on the other, after the 1995 bombing of the Alfred P. Murrah Federal Building in Oklahoma City.

Obviously, Richard Meier's design for the Sandra Day O'Connor United States Courthouse created a challenge for his team of architects and engineers. It also tested the commitment of the client, the General Services Administration (GSA), to its vaunted Design Excellence Program established in 1994 [MARCH 1999, page 105].

To beat the heat, Meier and engineers Arup developed an ingenious solution to air-cool the building through a misting system that Meier first noticed being used in a cafe near the site. "Let's do it on a grand scale," he proposed (see details at architecturalrecord.com). To mollify anxiety about security, which had mounted after the design process was under way, Meier undertook a number of measures: He increased the use of laminated glass, reinforced the structure to guard against progressive collapse (one column falls, bringing down another, and so on), and doubled the number of bollards edging the plinth on which the building sits.

The success of the air-cooling system won't be truly apparent for some months, and the security measures, one can only hope, will never be really tested. Nevertheless, certain urbanistic, symbolic, and aesthetic aspects can now be assessed for the recently opened building. Only in the last category does this observer have some reservations.

When, in 1994, Meier was awarded the commission for Phoenix (in collaboration with local architect Langdon Wilson) he was

Project: *Sandra Day O'Connor United States Courthouse, Phoenix*

Architect: *Richard Meier & Partners and Langdon Wilson Architecture—(for Meier) Richard Meier, FAIA, principal-in-charge; Thomas Phifer, AIA, partner-in-charge (former); Donald Cox, AIA, Stephen Dayton, AIA, project architects; James Sawyer, AIA, project manager; (for Langdon Wilson) Michael Schroeder, AIA, partner-in-charge; Ken Lufkin, AIA, Toby Rogers, project managers; Andrew Wolfe, AIA, Bob Lufkin, project architects*

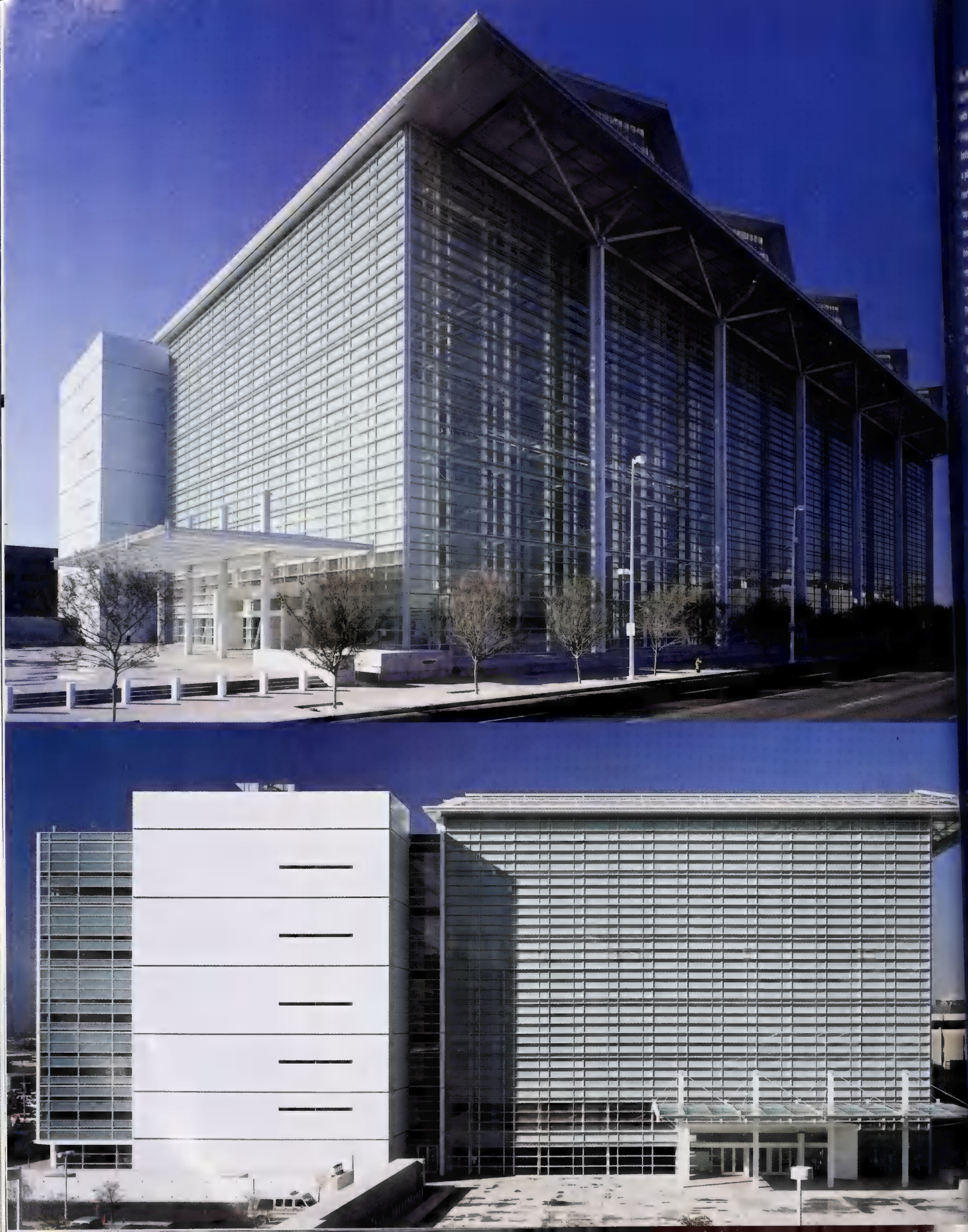
Engineers: *Paragon, (structural); Arup (passive cooling)*

Consultants: *R.A. Heintges (curtain wall)*



PHOTOGRAPHY: © SCOTT FRANCES/ESTO





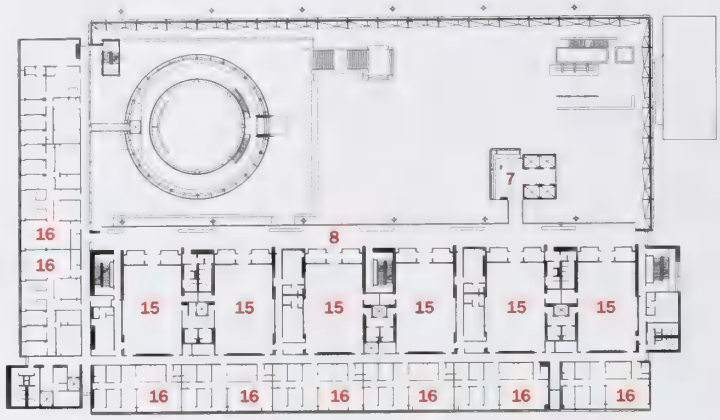
The Phoenix courthouse is oriented to the east, with the main entrance (opposite, top and bottom) opening onto a plaza; however, the north facade (opposite, top and left) is given more prominence because of the strong verticality of its six 100-foot-high columns. The west facade (right) the south facade (below), plus the east facade, display a disci- plined horizontality.



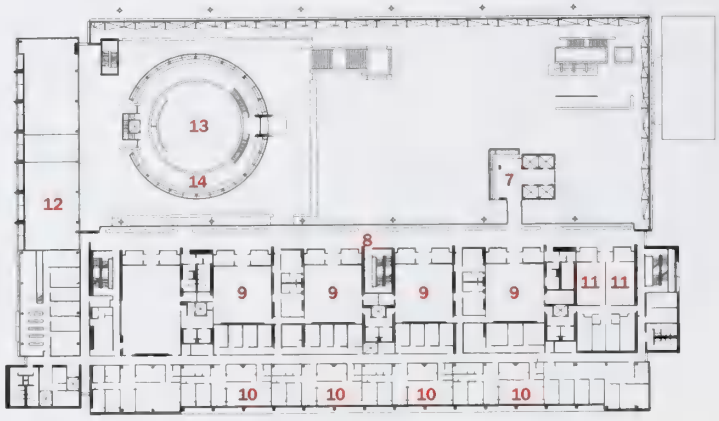


Transparent justice

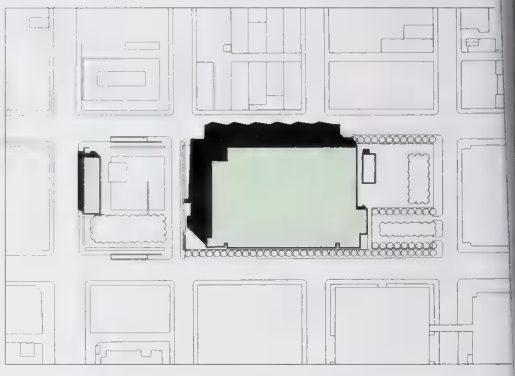
A glass-enclosed atrium offers the right sort o accessible note to the community. But since the walls are 115 feet high in a hot, sunny cli mate, the amount of light coming into the interi or had to be carefully controlled. Meier's no the sort who would want solarized (brown) glass. . . . So ceramic frit is used on the inner surface of the exterior light (surface 2) for 60 to 70 percent of the east facade, and 50 percent of the others. The surfaces of the interior light (3 and 4) are clear, with a low-e coating. For secu rity reasons, laminated glass is installed in the first three bands on the east and north exterior walls, the first three bands of the Special Proceedings Courtroom, and the roof's sky lights. A network of extruded aluminum (spaced only 35 inches apart) holds the glazing of the exterior walls, with a steel backup and hangers for lateral bracing.



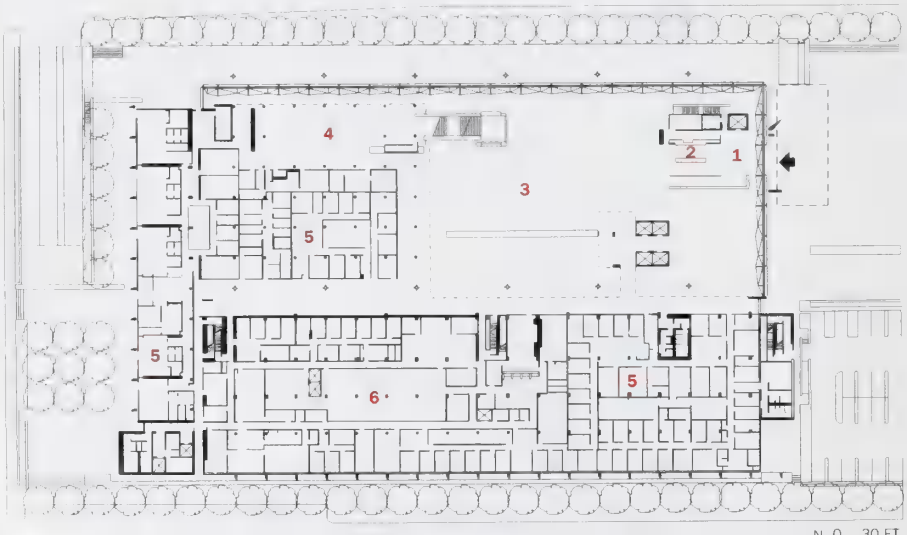
FIFTH FLOOR



THIRD FLOOR



SITEPLAN



FIRST FLOOR

1. *Entrance*
2. *Security*
3. *Atrium lobby*
4. *Jury assembly orientation*
5. *Offices*
6. *Records*
7. *Elevator lobby*
8. *Courtroom waiting area*
9. *Magistrate courtroom*
10. *Magistrate chamber*
11. *Grand Jury*
12. *Cafe*
13. *Special Proceedings Courtroom*
14. *Balcony of Special Proceedings Courtroom*
15. *District Courtroom*
16. *District judge's chamber*



already working on the federal courthouse in Islip, N.Y. [DECEMBER 2000, page 36]. Getting two GSA courthouses was a coincidence, says Edward Feiner, GSA's chief architect, since the design process calls for final selection by a group of peers that changes with geographical location. In addition, Feiner explains, "The GSA has a policy of not keeping anyone from doing more than one project."

While the $84.7 million Phoenix courthouse is not as dazzlingly sculptural on the exterior as Islip, it delivers the big whammy on the inside—in the atrium. It also demonstrates Meier's confident manipulation of a taut, Modernist, metal-paneled vocabulary. He has a copyright on white: If others use it, it looks as if they are trying to imitate him—and obversely, if he explores a material of another color, the result doesn't look enough like "a Meier." While Meier was thwarted in adhering totally to this vision with the Getty Center in Los Angeles [NOVEMBER 1997, page 72], ironically, the GSA seemed to sense better than did the Getty that the linearity and planarity of his spatial and structural syntax don't read as clearly if the building is a tan or textured material. "Richard does white," states Feiner, who studied under Meier years ago at Cooper Union. "We try to give the architect enough latitude to create an art form."

In adjusting the Phoenix courthouse to its context, Meier could hardly ignore the fact that the sixth largest city in the country is dominated by a gridded plan. On the flat desert plain of the city's 2000 square miles, block after block of houses, office buildings, and shops, spread out like thin batter over a waffle iron. When the six-story courthouse springs up on a two-block site at the edge of downtown, it seems more than appropriate in scale to this strangely suburbanized urban context. Situated to encourage future expansion of downtown, the large courthouse lies in an axial sequence that connects to the state capitol, city hall, and other government buildings.

Meier wanted to evoke the awe-inspiring stateliness of traditional courthouses, but do so on his own terms. No classical columns, cornices, and capitals are to be found (although there are abstracted equivalents, but more about that later). As part of its design process, the GSA reviews three design schemes by the architect: Meier came up with nine. His favorite one got built—the straightforward 571,000-square-foot structure is composed of an L-shaped concrete-frame block containing 18 courtrooms wrapping around a steel-frame glass atrium, extraordinary at its 120-foot height.

Inside, the vast, enclosed, skylighted plaza is bathed in a luminescent glow. The two walls of translucent ceramic-frit-and-transparent glass, held within a white latticelike aluminum frame, plus the filigree of trusses and skylights above, give a sense of scale to the monumental space. Freestanding "objects" in this 58,000-square-foot atrium contain various programmatic functions, such as the white cubiform gatehouse at the security checkpoint and the vertical elevator tower connecting to the L-shaped bank of balconies and courtrooms. But the most riveting





The circular Special Proceedings Courtroom (opposite) is paneled in anigre wood and topped by a glass ceiling executed by James Carpenter Design Associates as part of the GSA Art in Architecture Program. Along the south side of the atrium are the district courtrooms (left), also paneled in anigre and about 15 feet high. The balconies, behind the six steel columns of the atrium structure, provide waiting areas.

sight is the radiant 60-foot-high glass drum atop a concrete base at the far end of the atrium. This totemlike cylinder, created from steel beams acting as compression rings and clad in fritted-and-laminated glass, houses a special proceedings courtroom.

If you take the grand stairs from the atrium to the platform and enter through the courtroom door, you find yourself in a circular anigre-paneled interior, above which floats a crisply fashioned convex lens ceiling of randomly patterned pebble-grain glass. Designed by James Carpenter and his architect, Luke Lowings, the large lens is suspended by cables attached to the drum, and even includes a sprinkler system (see page 185 for details).

Elsewhere in the building, courtrooms may not have the same dramatic impact, but rectangular rooms achieve an abstracted elegance largely due to the almost 15-foot-high ceilings and the wood paneling. Indeed, all of the spaces are executed with Meier's precise sensibility, even when materials shift to drywall and a let's-cut-costs workmanship. More impressive than the detailing is the rationality of the plan in the L-shaped portion, with its layering of public corridors/balconies, courtrooms and jury rooms, private corridors, and finally, on the perimeter, the judges' chambers.



Outside, the south, west, and east elevations are crisp, linear, classic Meier. The north elevation, the major street facade, is not. Indeed, its design looks faintly like a Modernist riff on the classical porticoes of the old days but without the entrance, which is around the corner on the east. The north elevation is marked by a row of six columns—star-shaped steel instead of fluted. These columns are topped by trusses, where ordinarily the capitals would be, and above that, the trusses are capped by a flat overhanging lid, much like a cornice. Sitting on this 23-foot-deep lid is a series of peaked trusses for the vaulted skylights, looking faintly like a serial homage to a Greek pediment. Only here, the peaks are slightly off center. On top of that, the vaulted skylights are pushed to the edge of the overhang, adding a weightiness that is all the more incongruous. (The rationale that the north-facing overhang shades the interior from the sun's western rays doesn't mitigate the suspicion that this gesture resulted from a desire to create a strong profile against the skyline.) If this is a send-up of the classical courthouse imagery, it works. If it is supposed to look like a well-resolved major elevation, it doesn't quite make it.

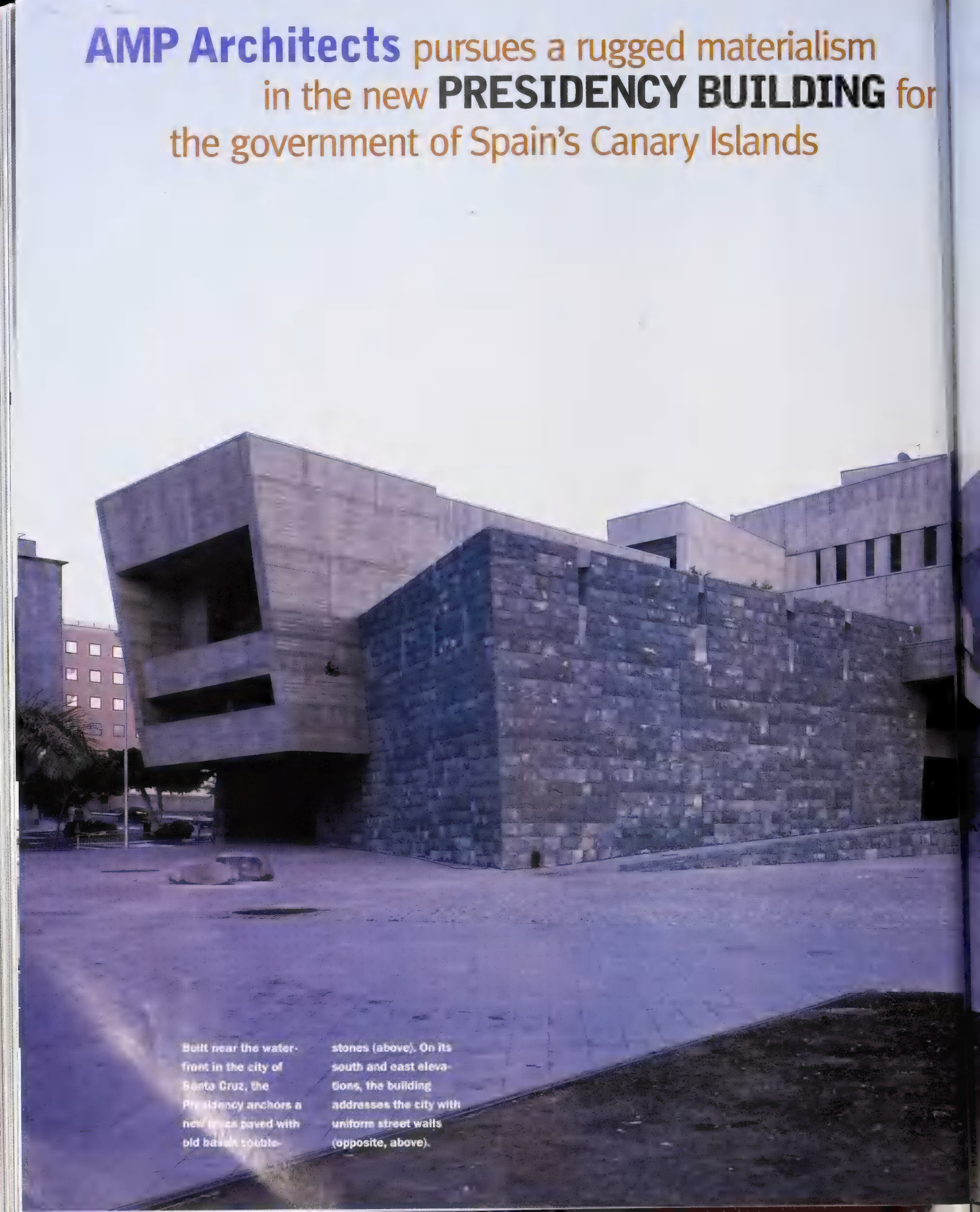
As one moves around the building, the disjunction between the verticality of this facade and and the strong horizontality of the others, wrapped as they are in smoothly articulated, extruded-aluminum mesh and painted-steel panels, becomes all the more noticeable. True, this aesthetic flaw does not detract from the environmental, functional, or symbolic success of the atrium—justifiably the major memorable feature. But this external gesture creates a glaring inconsistency in the overall formal composition that otherwise is so accomplished. ■

Sources

Atrium roof, wall space frame, and exterior canopy: *Schuff Steel Co.*
Metal-and-glass curtain wall: *Harmon Ltd; Cupples Products.*
Glass: *Viracon and Interpane*
Skylights: *Supersky*
Acoustical ceilings: *Armstrong*
Cabinetwork and custom woodwork: *Mid Canada Millwork*
Terrazzo flooring (atrium, public floor and holding cells): *Roman Mosaic and Tile*
Interior ambient lighting: *Metalux and Cooper*

WWW For more information on the people and products involved in this project, go to Projects at **www.architecturalrecord.com**

AMP Architects pursues a rugged materialism in the new **PRESIDENCY BUILDING** for the government of Spain's Canary Islands



Built near the waterfront in the city of Santa Cruz, the Presidency anchors a new plaza paved with old basalt cobblestones (above). On its south and east elevations, the building addresses the city with uniform street walls (opposite, above).



By David Cohn

This modern palace for the regional government of the Canary Islands is all muscle. Nothing like the brawny, quarry-cut basalt of its lower floors has been seen in architecture since the days of H. H. Richardson, and nothing like its rugged, board-formed concrete since Le Corbusier's Carpenter Center at Harvard nearly 40 years ago. Inside its stone and concrete interiors, laborious details meet the eye at every turn: a three-ton steel gate that pivots at the touch of a button; a pair of doors, crafted of solid concrete and stone, that disappear into their respective walls; a 20-foot auditorium lectern hewn from the heartwood of single Canary pine more than 250 years old, unvarnished and resinous. Most surprising, an imposing 18th-century wood patio from the Hamilton House, a local historic mansion demolished in 1973, surrounds a central courtyard and serves as a contrast to the rest of the project. The architects discovered the patio languishing in a storage container and incorporated it in the building—a decision that required the redesign of the project and a full-scale preassembly of the patio simply to measure it, but which added a sense of history and connection with local architecture.

The Canary Islands, a chain of volcanic islands 700 miles southwest of the Spanish mainland and 70 miles from the African coast, have been controlled by Spain since the 15th century and are now one the country's 17 autonomous regions. The province's executive branch of government, or Presidency, is located in the port city of Santa Cruz on the island of Tenerife. The building serves on a rotating basis, together with a similar facility on Gran Canaria, the archipelago's other major island.

The Presidency, which opened earlier this year, is the first major work of Tenerife architects Felipe Artengo, Fernando Menis, and José



PHOTOGRAPHY: © HISAO SUZUKI

Contributing editor David Cohn writes from Madrid and is the author of Young Spanish Architects, *published by Birkhäuser in 2000.*

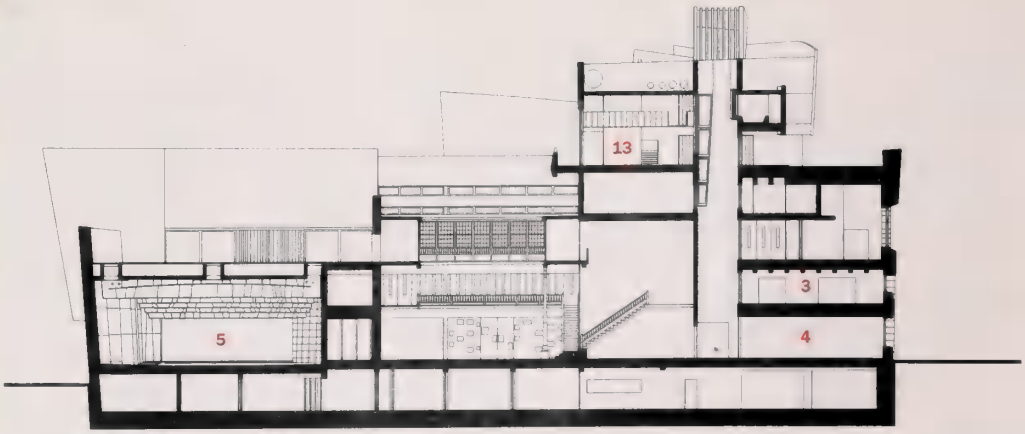
Project: *Presidency Building, Santa Cruz de Tenerife, the Canary Islands*
Architect: *AMP Arquitectos—Felipe Artengo Rufino, Fernando Martín Menis, José M. Rodríguez-Pastrana Malagón, principals; Almudena López Villalba, Félix Morales, collaborators; Pino Artengo Rufino, Javier Elejaveitia, Isabel Nichaldas Nazco, Norberto Méndez Melián, master builders; Fernando Álamo, Juan Bordes, Pedro González, Juan Gopar, collaborating artists*
Engineers: *Arcal S.L. (structural); IHD Ingenieros (services); Terrain SDP (mechanical/plumbing)*
Landscape consultant: *Zona Verde*
General contractor: *ACS*



Finding the expressive nature of materials

Exploiting the dramatic character of weighty materials was an important strategy used by the architects. For example, concrete walls are curved and layered to define the president's penthouse apartment (opposite), while basalt walls facing the plaza (this page) are canted to energize the structure. "As we learn more about concrete, we take greater risks to get the greatest expressive and dynamic force we can from it," says AMP partner José Rodríguez-Pastrana. "What concerns us is how to adapt the material to our formal intentions, how to obtain, for example, inclined volumes, a certain play of light and shadow, effects of creases, folds, or tensed surfaces. We have good craftsmen here, and labor costs are not high, so the possibilities are infinite."



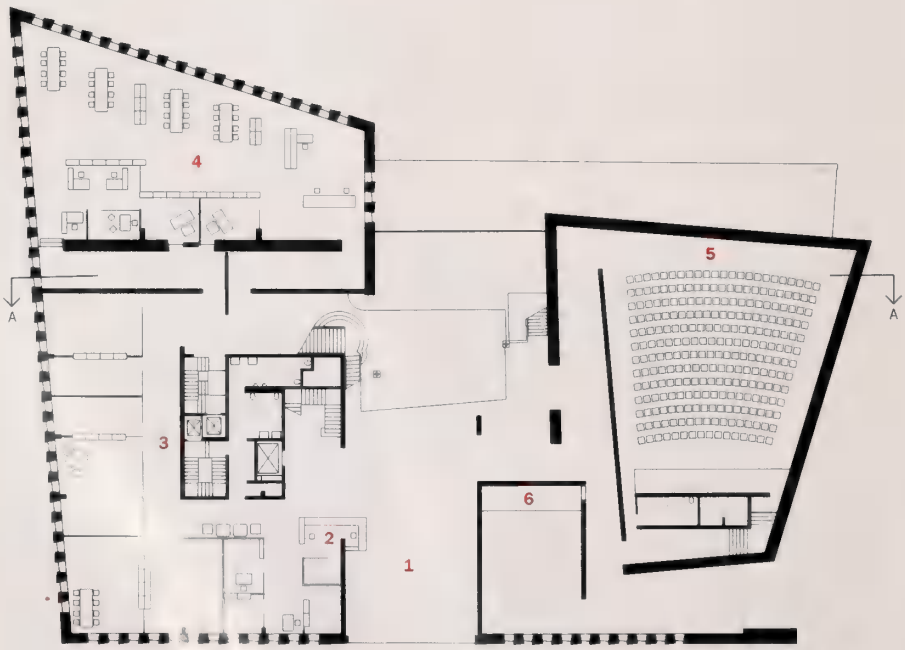


SECTION A-A

1. *Lobby*
2. *Information desk*
3. *Administration*
4. *Library*
5. *Auditorium*
6. *Press*
7. *Vice President*
8. *Boardroom*
9. *President's office*
10. *Ceremony room*
11. *Secretaries*
12. *Banquet room*
13. *President's apartment*



THIRD FLOOR



GROUND FLOOR





Slicing oval holes in concrete ceilings in the library (above), the architects exposed the material's plastic capabilities. In other public spaces, AMP combined various kinds of stone with concrete and wood (opposite, top left) or brought daylight in between concrete beam in the auditorium (opposite, top right) to contrast light and heavy. The Hamilton patio (below) was salvaged from an old local mansion





Pastrana (AMP), who won a national competition for the project in 1986 (the present design dates largely to 1993). It is located near the center of Santa Cruz, in a waterfront area currently undergoing redevelopment. Not far away, a concert hall by Santiago Calatrava is under construction, as is a contemporary art center by Jacques Herzog and Pierre de Meuron—all part of the government's effort to use architecture to raise the island's cultural profile. The site of the Presidency, formerly the parade grounds of a historic barracks, has been redesigned as an urban plaza by AMP, incorporating an impressive stand of ancient laurel trees and old basalt cobblestones arranged in lavalike flow patterns.

In urban terms, the building has two faces, presenting a uniform street wall to the bustling areas to the south and west, and a more dynamic, pinwheel composition on the two sides facing the cobblestone plaza. A ceremonial vehicular route penetrates the building through cast bronze doors on the south, takes dignitaries to the Hamilton patio, and exits to the plaza through the wide three-ton gate—establishing a strong axis between patio and plaza.

THE RUGGED CHARACTER OF THE BUILDING WAS INSPIRED BY THE VOLCANIC LANDSCAPE OF THE ISLANDS.

Inside, public spaces such as an auditorium, press room, and library spread out on the ground floor, while staff offices occupy a mezzanine level, and executive offices and ceremonial spaces sit on the third floor. The large footprint of these spaces forms a base and garden terrace for the president's official residence above, a two-story penthouse whose sail-like concrete forms are cantilevered from a vertical circulation core.

José Pastrana says the expressive character of the building was inspired by the "abrupt volcanic landscape" of the islands, where steep, rocky mountains plunge into the sea. AMP developed this expressive analogy largely through its innovative use of concrete, part of an ongoing investigation in its work. At the Presidency, the basalt-and-exposed-concrete walls of the exterior are canted outward to "dynamize the forms and eliminate any sense of overbearing weight," explains Pastrana. Inside, the architects turned ceilings into dramatic demonstrations of concrete design, giving a distinctive character to each pubic space. For example, they spanned the auditorium with deep concrete beams whose chipped and jagged profiles grab attention and scatter sound waves. Gaps between the beams admit bands of daylight and ventilated air. In the low ceiling of the room's entry, rough splints were introduced into the concrete's formwork during construction to create light-filled cracks and crevices. One side wall, finished in book-matched leaves of gray volcanic stone from the island of Fuerteventura, has porous surfaces that are sound-absorbent, while the opposite wall is finished in rough basalt. The overall effect, as Pastrana notes, is like that of a "volcanic cave."

The play of stone and concrete continues in the library—which features oval-shaped cutouts and cove lighting in the ceiling and stone from Lanzarote on the walls—and in the third-floor banquet room, where a honeycomb ceiling and red stone from Gomera work together. The architects used tropical inoko wood for many of the interior details such as sliding interior window shutters and paneling in the executive offices, adding warm notes to complement the predominantly masonry building. The Hamilton patio itself was inserted into the building in the same spirit, as a fine-crafted wood element. The incongruous presence of the patio in the otherwise tough contemporary design is a dramatic example of the architects' scavenger approach to materials. Notable examples in other projects include recycled telephone poles and scrap metal. The architects also designed the conversion of an old petroleum storage tank into a remarkable cultural center for the city, a case in which the entire building is scavenged space.

All told, the project took 14 years to design and build, and it survived four changes in government (with corresponding design changes ordered by incoming presidents), as well as the bankruptcies of two general contractors. Though the building may seem overwrought in some of its details and uncomfortably dense when compared to the transparency of other contemporary Spanish designs, it offers important lessons for anyone interested in the continuing possibilities of crafted form. Artengo, Menis, and Pastrana are examples of what critic Kenneth Frampton has called *homo faber*, or man as builder and artisan. At a time when so much confidence is placed in vague ideas of virtual space or digital design, AMP is engaged in the struggle to wrestle expressive form from raw material, and in the transformation of the physical world through hard work, risk, and invention. ■

Sources

Zinc roofing: *Roferlo S.L.*
Wood windows and doors: *Teodoro Del Pino e Hijos S.L.*
Entry doors: *Fernando Páramo Solano*
Patio restoration woodwork: *Reconstrucciones Escobar S.L.*
Floor tile: *Pemoro Especialioades de la Construcion S.A.*
Raised flooring: *Mero Systeme*
Furnishings (lecture hall): *BD Canarias*

WWW For more information on the people and products involved in this project, go to Projects at **www.architecturalrecord.com**



In creating a hotel, TI
sheathed a former
1950s apartment bui
ing in glass (this page
and opposite, top). O
a dense urban site
(opposite, bottom) th
original building's adj
cent twin still stands
beside it in derelict co
dition (this page).

TEN Arquitectos miraculously turns a dilapidated Mexico City apartment building into **HABITA**, a dazzlingly chic, glass-veiled hotel



y Sarah Amelar

Like performing surgery," is the way Enrique Norten describes his architectural transformation of a grimy, derelict 1950s apartment building in Mexico City into a sleek and radiant little hotel. Demolition of the existing structure, followed by new construction, was ruled out because it would have brought a panoply of zoning restrictions—constraints that do not apply to renovations. And so, architect Norten and his firm, TEN Arquitectos, opted for radical plastic surgery (with organ transplants) on the shabby five-story apartment building with its network of interior bearing walls.

"It was tricky," recalls Norten. "We had to carefully cut little pieces of wall to carve out, for example, a corridor, a tiny elevator shaft, or an air-conditioning plenum." To turn three apartments per floor into a total of 36 rooms or suites, the architects had to find hidden light wells. In other places, they grafted on new elements, sometimes inserting partitions or small structurally essential beams.



But the challenge went further. Sited on a major shopping boulevard, the building and its adjacent twin suffered from urban maladies at odds with an upscale hotel: undesirable views and noisy, severely polluting traffic. TEN responded by literally giving the hotel a second layer of skin.

A box within a box, the concrete-reinforced brick building is now encased in translucent green-blue, sandblasted glass: a protective sheath set four feet from the face of the original exterior walls. The existing facade's windows and sliding glazed doors (replaced and slightly modified by TEN Arquitectos) now open onto a buffer zone of enclosed balconies between the old and new exteriors. In effect, the building has been sealed off from the visible and audible chaos around it.

While the great wrapper plays a straightforward, pragmatic role, the use of materials throughout the project also generates a playfully provocative dialogue about masking, veiling, and revealing, about seeing and being seen, about glass paradoxically setting and denying spatial limits, simultaneously shielding and exposing.

The first suggestion of this discourse comes with the clear (non-sandblasted) strips that punctuate the vitreous outer shell, controlling inward and outward views in markedly different ways. Through these slots, insiders are permitted precisely edited glimpses of the streetscape that screen out the unsightly; while the same slots—exploiting the coquettish nature of a translucent veil—offer outsiders only teasing flashes of what lies within. At night, when illuminated between its skins, the building glows like a lantern, divulging shadowy images of balcony plants and furnishings, occasional moving figures, and layers of windows with drawn curtains or barely discernible lit interiors in the background.

In jarring juxtaposition to this luminous facade, the apartment building's original twin stands vacant and in squalid disarray—posing a striking snapshot of "before" and "after" in a former residential neighborhood that is currently becoming an elegant avenue of offices and boutiques. (Habita may eventually expand into the adjacent structure.)

Inside, the hotel's design continues in a Minimalist vein—like most TEN Arquitectos work—articulated here in stainless steel, glass, and maple. The architects designed virtually all the interior fittings, except for chairs and lamps. The custom elements range from tables and counters to stainless-steel pigeon holes behind the front desk and ceramic tableware (by TEN partner Bernardo Gómez-Pimienta) in the hotel restaurant.

Separated from the sidewalk by clear plate glass, the dining

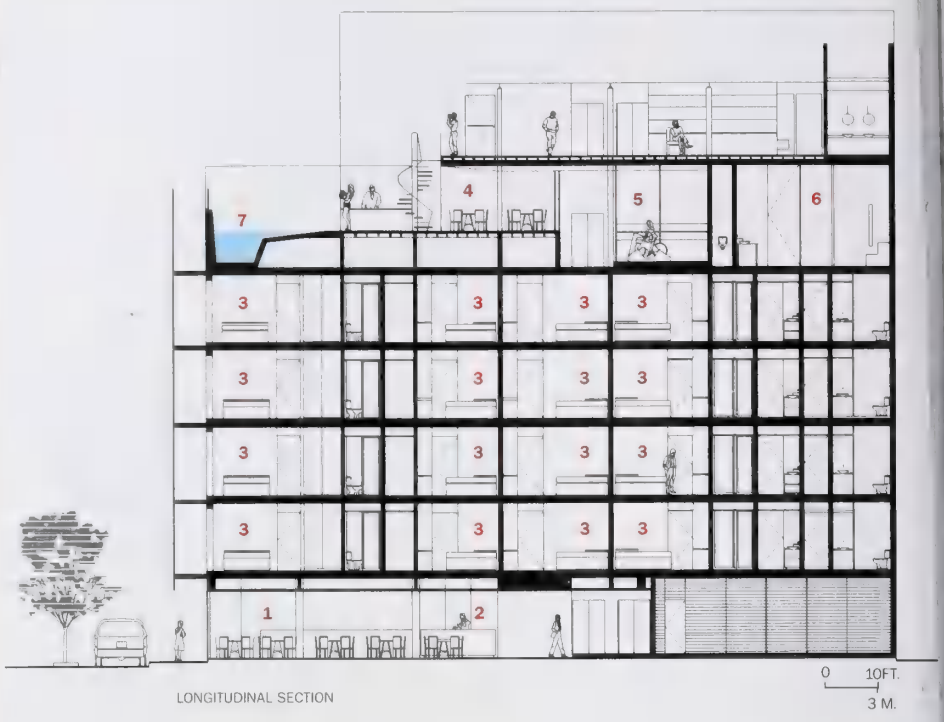
Project: *Hotel Habita, Mexico City*
Architect: *TEN Arquitectos—Enrique Norten, FAIA, Bernardo Gómez-Pimienta, Barbara E. Wilks, FAIA, principals; Aaron Hernandez, Sergio Nuñez, Francisco Pardo, Hugo Sánchez, Claudia Marquina, Carlos López, Martine Paquin, Rubén Garnica, Adriana Díaz, project team*
Owners: *Carlos Couturier, Moises Micha, Rafael Micha, Jaime Micha*
Engineers: *Colinas de Buen*
Lighting: *Houbard & Bourlon*
General contractor: *Gavaldón*

Cool compositions in glass and stainless steel

TEN created clean-lined Minimalist tableaux, drawing on a limited palette of precisely detailed materials: glass (sandblasted and clear), stainless steel, and blond maple with white sonora and travertine marble floors.

On the exterior, the architects produced a second skin by attaching sheets of tempered, laminated, partially sandblasted glass to the concrete slab with stainless-steel angles. The simple-looking hardware was designed to withstand wind, suction, and earthquakes.

Inventive glazing and steelwork continues throughout the interior: from the translucent back-lit check-in desk with stainless-steel pigeon holes for room keys and messages (below) to the glass-screened sauna and, in guest bathrooms, custom steel fixtures and opalescent glass partitions.



LONGITUDINAL SECTION

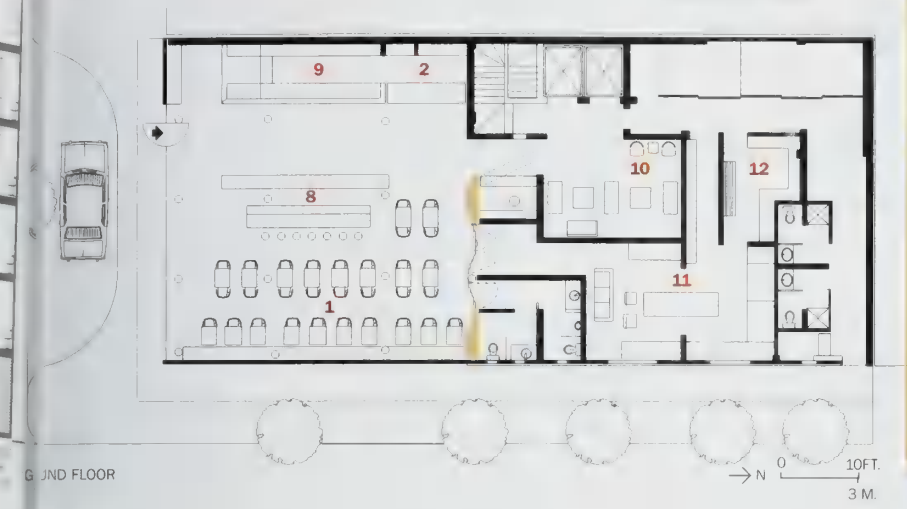




Restaurant
Check-in desk
Guest room
Cafe/bar
Gym
Sauna

7. *Swimming pool*
8. *Bar*
9. *Office*
10. *Lobby/lounge*
11. *Kitchen*
12. *Storage*

With oblique views out toward the entry and street (below, center), the luminous check-in desk (bottom, right) faces the bar and restaurant (right).











room and bar dominate the entry level. So much so, in fact, that the check-in desk's existence is not immediately apparent. Subtly tucked to the side, it could as well be a maitre d' station. The design, says Norten, intentionally inverts hotel-lobby conventions, in order to make the entry area a prime "social zone." On weekend nights, in full view to the street, that ambition is realized, but perhaps the hotel's hottest social zone is its rooftop.

When Habita opened last fall, the roof terrace instantly became a venue for fashion shoots and shows, and for beautiful people at stylish parties: a place to be seen. But like much of the design, this amenity came in response to existing limitations. Since zoning laws would not permit additional stories, TEN provided much-needed space by creating a glamorous outdoor lounge—a reasonable strategy in Mexico's warm climate.

White-tiled and redwood-planked, this open-air living room is a duplex: its upper level, the sixth floor, features a bar, tensile overhead shade, and open brick fireplace, while the lower level, one flight down, has a swimming pool and second bar. A spiral stair links the two tiers (as do the elevators), but the bigger connecting gesture is the upper level's stepping down toward the Mexico City skyline. Whereas the hectic street-level views may be off-putting, this skyscraper vista fortuitously captures the luster of urbanism at an idealizing distance—close but removed from the hassle. The effect is accentuated by clear glass rails that mark the upper deck's edge





In guest rooms (opposite page), clear glazing facing the balconies extends the sense of spaciousness. The double skin aids interior climate control. On the roof (this page), a poolside spiral stair (far left) connects lower and upper levels, leading up to an open-air fireplace lounge (left). The lower deck has an outdoor jacuzzi (below).





while momentarily giving the breathtaking sensation that one could fall over the brink. Visually compressing the middle ground and dramatically connecting this six-story roofscape to a grander skyline, the architects enhance the play of perspectives by framing views and placing a shallow lap pool beside an abstract ceramic mural at the lower deck's leading edge.

The resulting mise-en-scène—produced in glimmering Minimalism—has the makings of a trendy and extremely photogenic backdrop. (Lots of Windex, daily laborers, and an exterior glass-cleaners' track help keep the place pristinely aglow.) Playing off the design's blank-slate and theatrical qualities, nighttime party givers frequently project images onto the pool's smooth surface and a neighboring building's side wall.

Back inside, the more private guest facilities are serene and s- like. An exercise room with sauna and jacuzzi adjoins the pool deck, a shaped by extensive glazing and carefully circumscribed views. Surpris conditions often appear at the junctures between the two skins, reveal the precision and variety of the glass detailing.

Almost every room required a unique configuration, given existing parameters. TEN Arquitectos finessed the details in each case, tomizing sleek built-in furniture and, for the bathrooms, stainless-st fittings with translucent glass partitions. Within the original low-ceiling unremarkable interiors, the architects achieved calm, airy spaces. Doub insulated from the outside world, the accommodations are unusual in th inward focus—a feature that gives them tranquility, as well as a strang hermetic quality. But just when the wrapper verges on feeling excessive releases, as at the ends of the dual-layered buffer zones, where slab-to-sl clear glass affords oblique, yet unexpectedly expansive, streetscape view Standing on the protected balcony, you may suddenly find yourself com pletely, almost amusingly, exposed from the side.

Of course, the idea of hermetically sealing (well, almost) a existing building may initially seem questionable—but in TE Arquitectos' hands, the result is remarkably elegant. With overt ambiv lence toward its setting, this cocoonlike enclave sequesters its gue quarters from the urban realm, only to open its top in celebration of th city. A wild celebration, that is, at a safe distance away. ■

Sources
Lighting: *Artimede*
Elevator: *Kone*
Glazing: *Val & Val*
Showerheads: *Kroin*

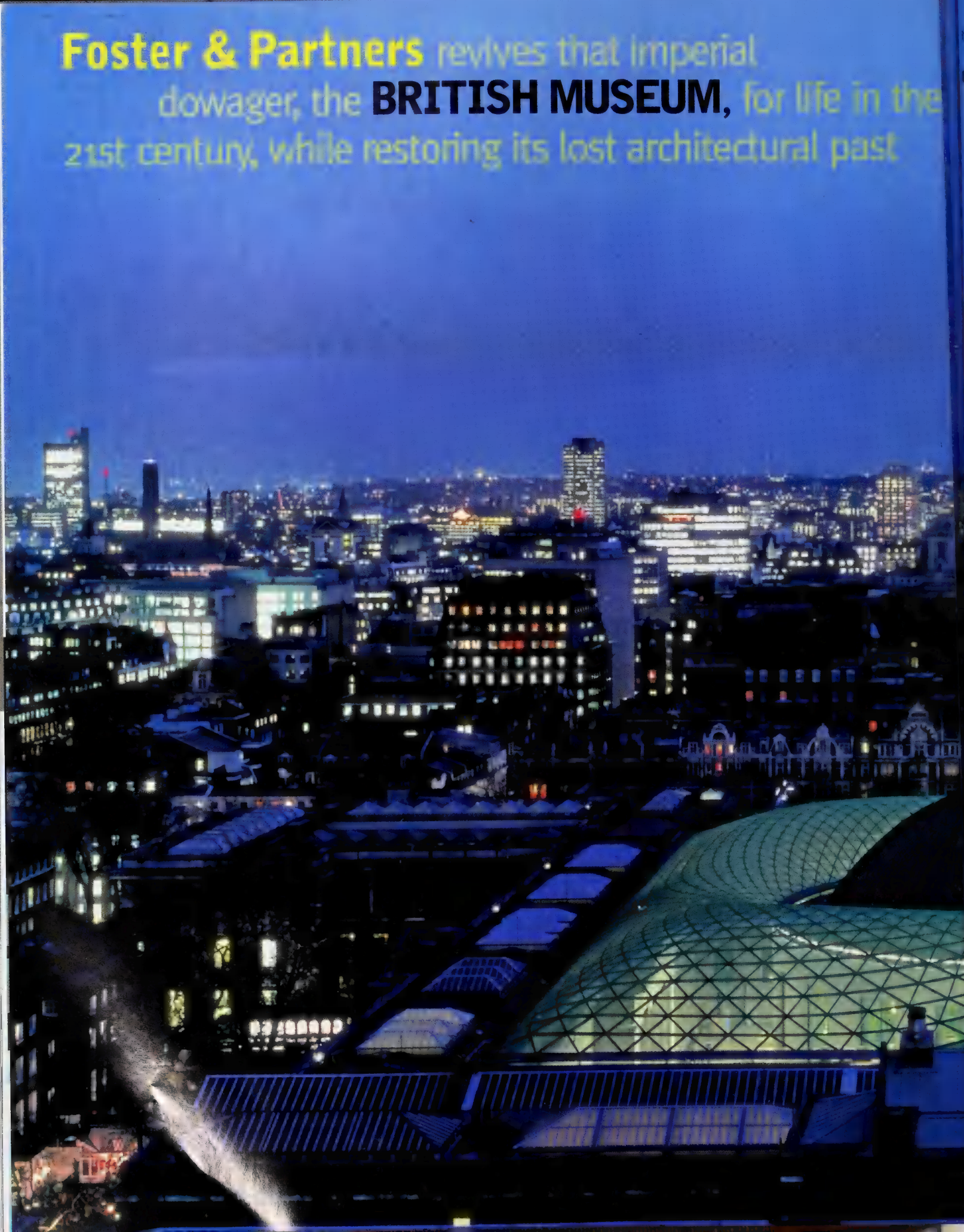
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On the upper roof terrace, a tensile overhead structure frames skyline views (opposite, top). The taut, waterproof fabric, as a "temporary" cover, complies with building code. On the lower deck (this page and opposite, below) the ceramic poolside mural—like artwork throughout the project—was designed by Jan Hendrix.

Foster & Partners revives that imperial dowager, the **BRITISH MUSEUM**, for life in the 21st century, while restoring its lost architectural past



By Sara Hart

The British Museum is eternal. For nearly 250 years, it has been the über-repository for the world's art, antiquities, and artifacts spanning thousands of years of human history. Within its 100 galleries reside icons of past and present civilizations, such as the Elgin Marbles, the Rosetta Stone, and the mummified remains of scores of Egyptians. Buried, quite literally, in the museum's courtyard stands the British Library's round Reading Room, fabled in literary circles but formerly unknown to most museum visitors. Indifferently constructed buildings containing iron book stacks surrounded the room, and, until recently, access was restricted to those deemed worthy of a reader's ticket. But on December 7, all the necessary, albeit regrettable, architectural transgressions of the past were forgotten, when the Queen Elizabeth II Great Court, designed by Foster & Partners, was given to the public. With its gravity-defying glass canopy and perfectly laid limestone surfaces, it is the first architectural marvel of the 21st century.

The transformation of the British Museum from solemn dowager to a vibrant urban oasis happened rather quickly by museum standards. Several years before the 1996 departure of the library to a new building, designed by Colin St. John Wilson, in St. Pancras, the museum trustees saw the opportunity to recover the long-lost heart of the museum—the courtyard, designed by Sir Robert Smirke in 1823 and occupied by the Reading Room and surrounding book stacks since 1857. The trustees initiated an open selection process to find an architectural firm to develop a scheme that would address the commercial





A glass-and-steel roo weighing 1,000 tons, cover the 65,000-square-foot Great Court (left, below, and opposite). The Spanish limestone of the new building is Galicia Capri in a perfectly lai stack bond.

needs of a modern museum while respecting the original architecture. One hundred thirty-two firms responded, from which a short list of 22 firms emerged. The list was then narrowed to three finalists—Foster & Partners, Arup Associates, and Rick Mather. In July 1994, the museum appointed Foster & Partners as the architect. Norman Foster's 40-year career is distinguished by high-profile, award-winning commissions. The reconstruction of the Reichstag in Berlin [JULY 1999, page 102], the Hong Kong International Airport, [NOVEMBER 1998, page 92], and the Greater London Authority headquarters for London's first mayor (to open in 2002), to name only three of hundreds, have etched his architectural reputation in stone and glass and steel. Then came the British Museum. In 2003, it will celebrate its 250th anniversary and a wonderful, if tortured, architectural history, during which architects and directors struggled to accommodate rapidly expanding collections and the proliferating British Library. The stakes were high. This was no mere upgrade of a musty, albeit venerable, institution, but a once-in-a-lifetime opportunity for an architect's legacy to extend into a broader historical context.

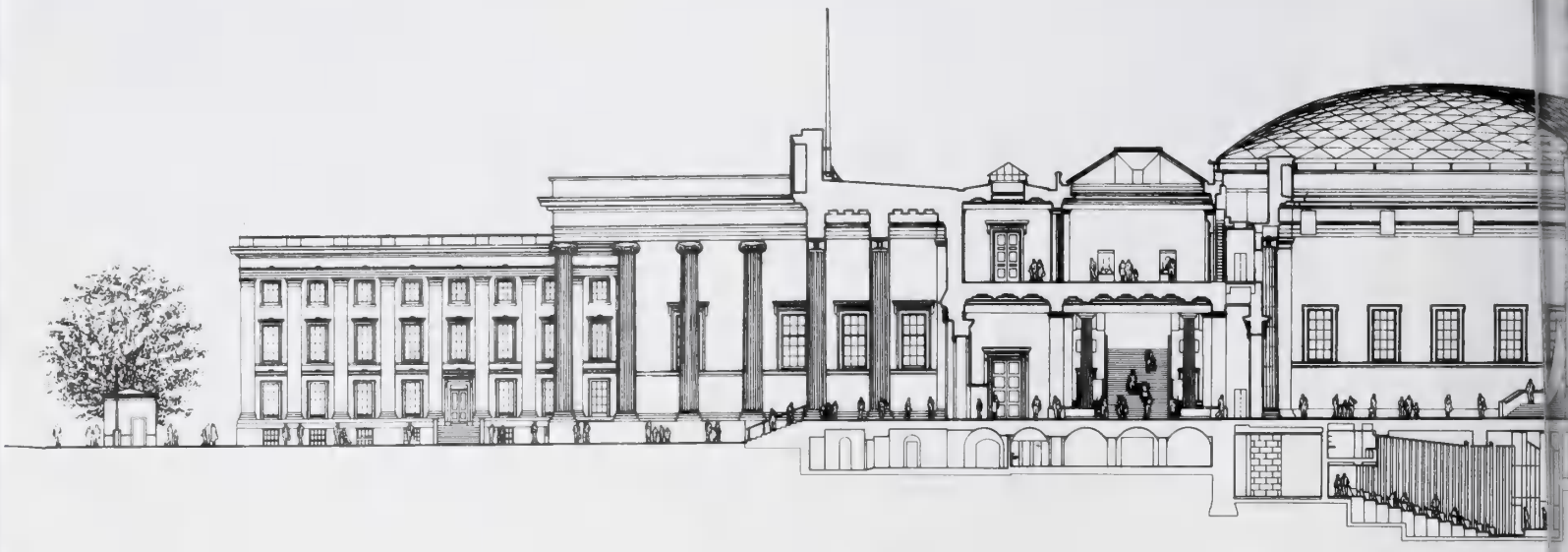
Since 1754, when it purchased a crumbling mansion called Montagu House, the British Museum has resided at its current locatio on Great Russell Street in literary Bloomsbury. It quickly outgrew th mansion and the subsequent expansion completed in 1802. In 1816 th trustees hired Smirke, then the official architect to the Office of Works who recommended building two parallel wings to the north of the man sion. However, when the museum inherited the library of King George II in 1823, the trustees redirected Smirke's efforts to the design of a nev museum. Smirke developed a quadrangular scheme with facades ren dered in the Greek Revival style enclosing a two-acre courtyard, which he envisioned as a grand public space. During the 30 years it took to construct the museum, Smirke struggled to keep pace with the museum's and library's burgeoning collections by adding galleries to the south and west of the quadrangle. Smirke lost the battle and his courtyard in 1852, when the trustees held a competition to develop the central space for the library.

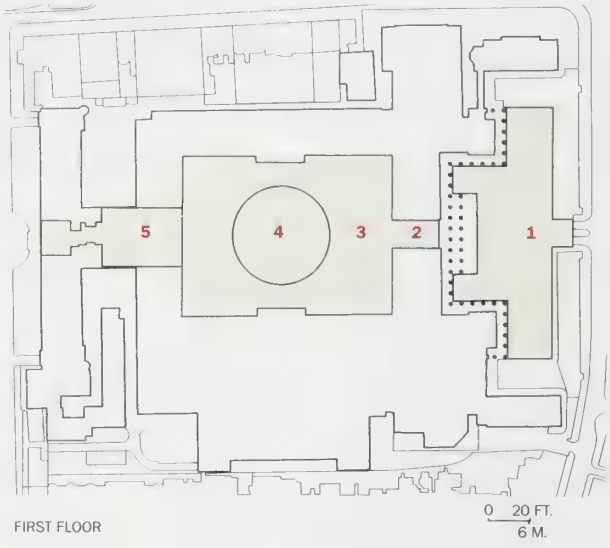
The winning design was actually the idea of Antonio Panizzi, the library's zealously acquisitive Keeper of Printed Books, whose sketch of a round reading room centered in the courtyard was developed by Smirke's younger brother, Sydney, and completed in 1857. In this innovative cast-iron structure, famous authors have read at its leather-covered desks, including Karl Marx who came daily for almost 30 years and wrote *Das Kapital* there. The spirits of Virginia Woolf, T.S. Eliot, John Ruskin, and Oscar Wilde, to name only a handful of notable readers, still permeate the room. Victorian author William Makepeace Thackery succinctly expressed the architectural power of the place when he wrote, "In the great circle of the library Time is looking into Space." While Sydney's Reading Room became the soul of the British Library, Robert's grand courtyard was lost and forgotten.



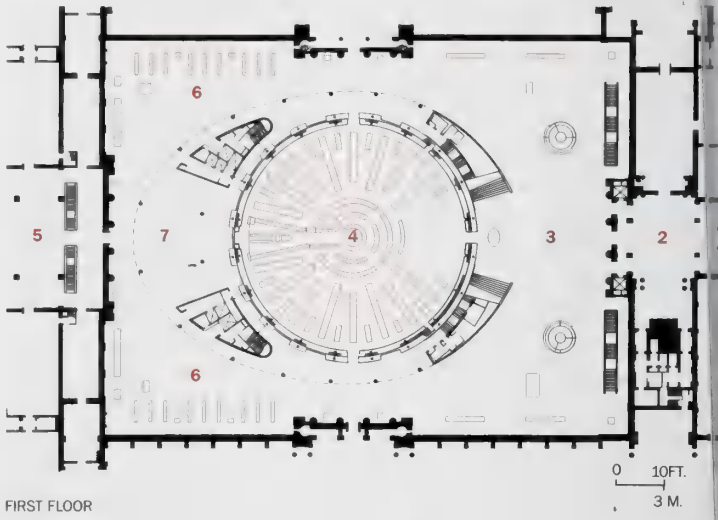
Project: *The Queen Elizabeth II Great Court, British Museum, London*
Architect: *Foster & Partners—Spencer de Grey (partner-in-charge), Giles Robinson (project director)*
Engineers: *Buro Happold—Stephen Brown (roof), Mike Cook (structural), Neil Billet (electrical, mechanical), David Cowles (planning)*
Roof steelwork and glazing: *Waagner-Biro*
Consultants: *St. Blaise and PAYE (stonework), ERCO and Claude Engle (lighting), H Smith (demolition), S.G.B. (scaffolding)*
Construction manager: *MACE Ltd.*







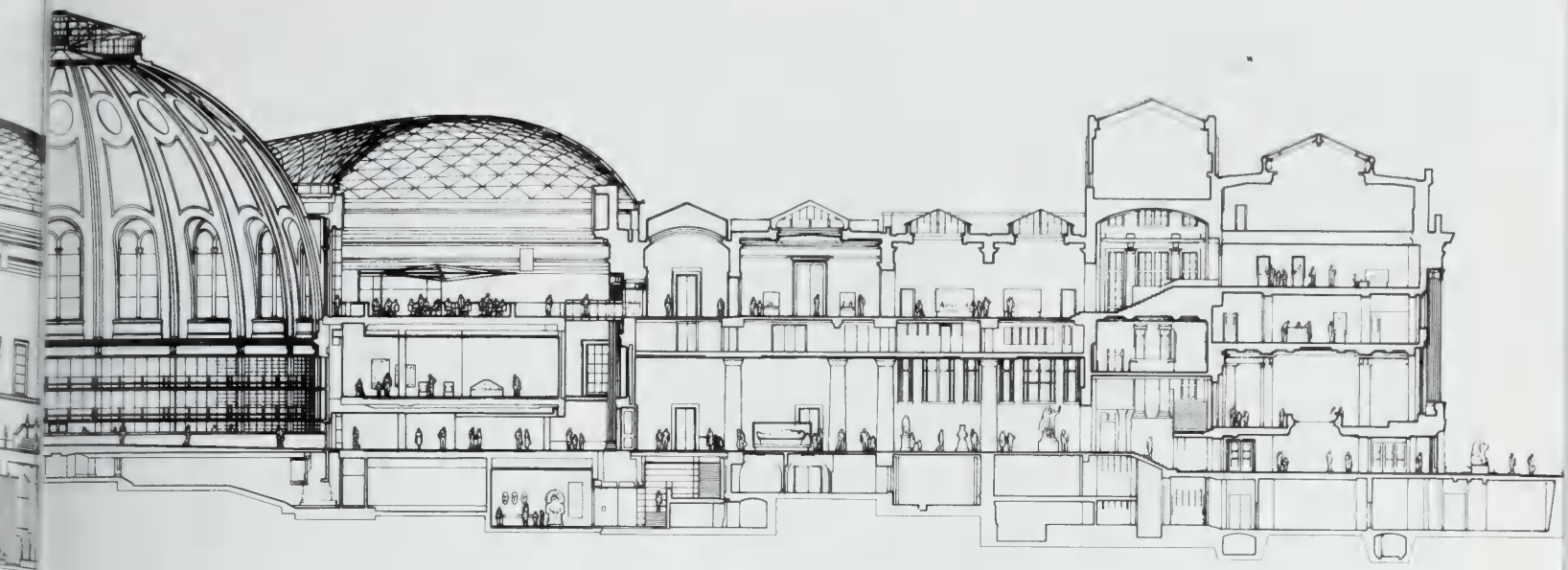
FIRST FLOOR

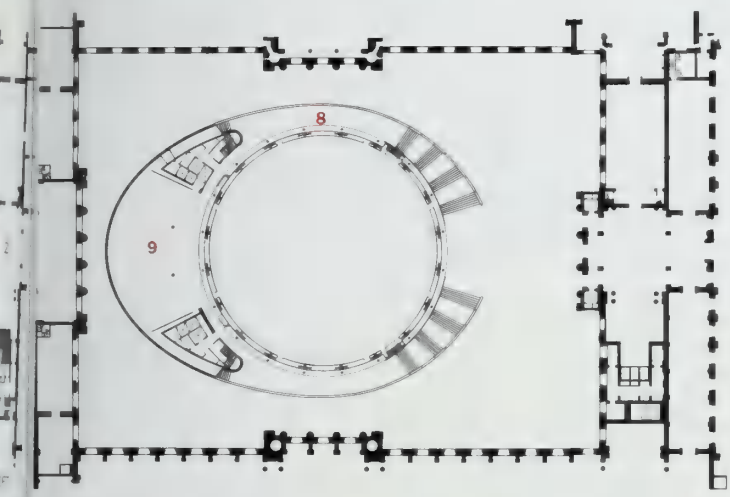


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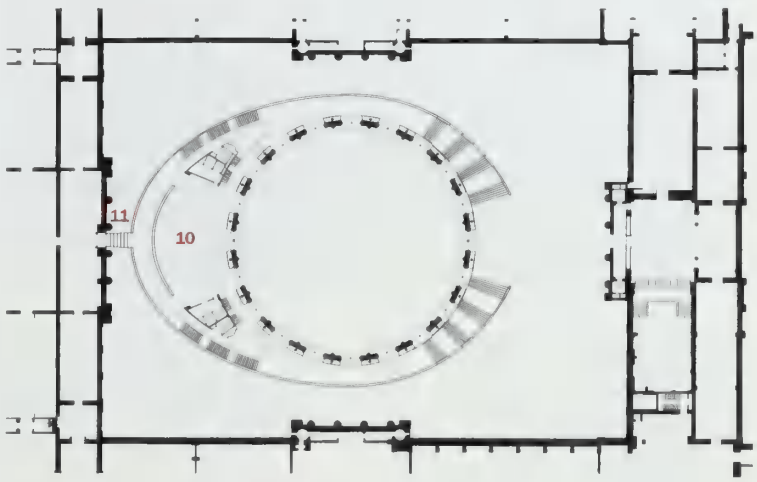
The section through the north-south axis of the museum (top) shows the progression (left to right) through the forecourt, Great Court, Reading Room, and the museum's north wing. The site plan (above) shows Robert Smirke's restored courtyard and the future restoration of the north wing, which is part of Phase Two and will be completed by 2003. The auditorium (right) is part of the Clore Center for Education in the newly created lower level beneath the south end of the Great Court. The Terrace restaurant (far left) sits on the upper level of the ellipse.







FLOOR



THIRD FLOOR

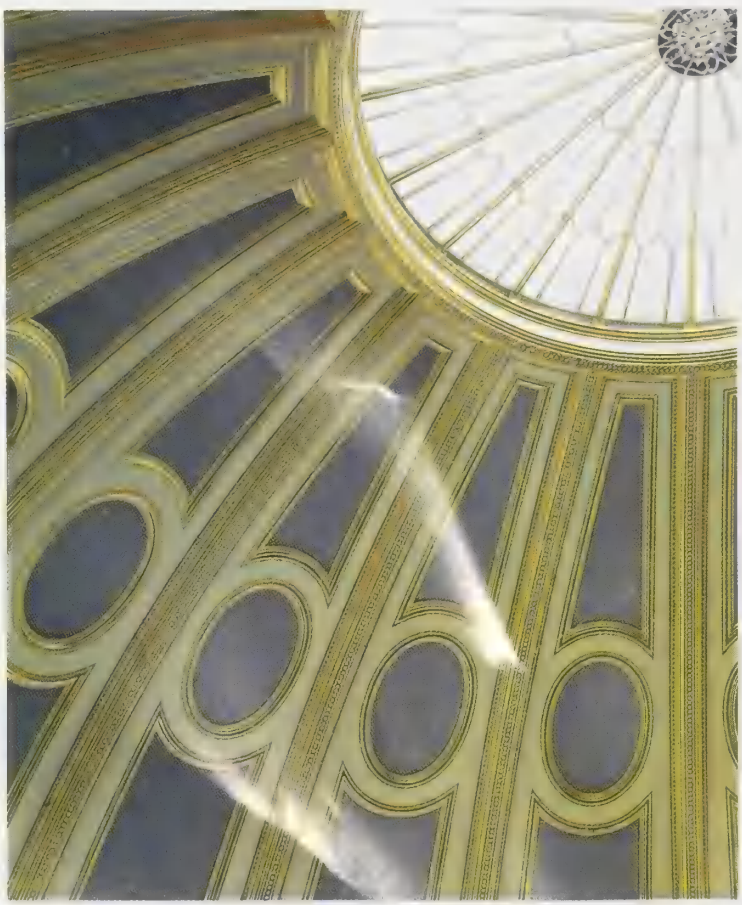
1. *Museum forecourt*
2. *Entrance hall*
3. *Great Court*
4. *Reading Room*
5. *North library*
6. *Court cafe*
7. *Museum shop*
8. *Terrace*
9. *Hotung gallery*
10. *Restaurant*
11. *Bridge to north library*



Restoration of Reading Room Dome

The original interior of the Reading Room's dome is a form of papier mâché called fibrous slab or patent wood, an invention registered in 1847 by C.F. Bielefeld. Once pressed and rolled, it takes on many of the characteristics of modern fiber-based board. Shrinkage of the papier mâché, movement of the wooden frame to which it is attached, and thermal expansion and contraction of the dome's cast-iron frame caused cracks and warping. Richard Ireland, a consultant for Hare & Humphreys restorers, developed a textile repair method using a fabric called Flexiweave, which is applied over the cracks and blended with filler. An unconventional, zero-tension Swiss-manufactured oil-based paint sits on top of the fabric and is not absorbed, allowing movement beneath.





The Reading Room anchors a scheme that is deceptively simple considering the project's complexity. The program is actually a series of separate, but interdependent, projects. Restoration of the Reading Room and three of the Ionic porticoes in the Great Court's quadrangle, as well as reproduction of the missing south portico (destroyed in 1875 during an expansion) and the forecourt on the south, was crucial to the success of the museum's major goal—the redevelopment of the courtyard as a glass-covered public space, shops, a restaurant and cafe, with a gallery for temporary exhibitions, and bridges to the north wing. Other new construction included the excavation under the courtyard for an education center with two auditoriums, another gallery, and support spaces.

Foster delicately infused his signature Modernism into the Great Court's quadrangle by absorbing the Reading Room within an elegant, stone-clad elliptical cylinder. While he respectfully matched the pale Spanish limestone of Smirke's Ionic porticoes, his unadorned elliptical sculpture emerges as the perfect Modernist counterpoint to his predecessor's stodgy Neoclassicism. He also downplayed the museum's concession to commerce and entertainment by tucking the commercial spaces discreetly within the ellipse. A pair of monumental stairs wrap the

AN ELLIPTICAL SCULPTURE EMERGES AS THE MODERNIST COUNTERPOINT TO A PREDECESSOR'S STODGY NEOCLASSICISM.

periphery of the cylinder leading to a gallery and restaurant on the upper levels. Because the destinations are not conspicuous, attention remains on the shifting perspectives of the courtyard as one ascends.

The glass-and-steel roof (see also Building Science, page 149), which floats above the two-acre courtyard, creates the largest covered courtyard in Europe. Foster's concept of a light, transparent canopy was engineered by Buro Happold, who displayed the same derring-do that Smirke did with his soaring cast-iron dome atop the Reading Room, and the breathtaking result is an 800-ton roof that appears to hover unsupported in the sky. Its undulating form defers to the original architecture as it billows up and over the quadrangle walls, keeping a respectful distance from the entablatures.

With the roof and restoration, planning and execution, Foster has created a masterpiece. He brings the past into the present without disturbing its ghosts or offending his predecessors. While he resurrected the original public courtyard, he reinvented it as a modern, animated, urban space. By prying the museum open at the core, he uses sunshine to dissolve the mausoleum-like atmosphere. And this is just the first phase. Phase Two will focus on the north wing, with the creation of new galleries, the restoration of historic interiors, the reinstatement of the ethnography collections and the creation of a new study center. When this task is completed in 2003, Foster will have reestablished Smirke's north-south axis and provided a coherent pedestrian corridor from Great Russell Street, through the Great Court, to Montague Place. Rest in peace, Robert and Sydney Smirke. ■

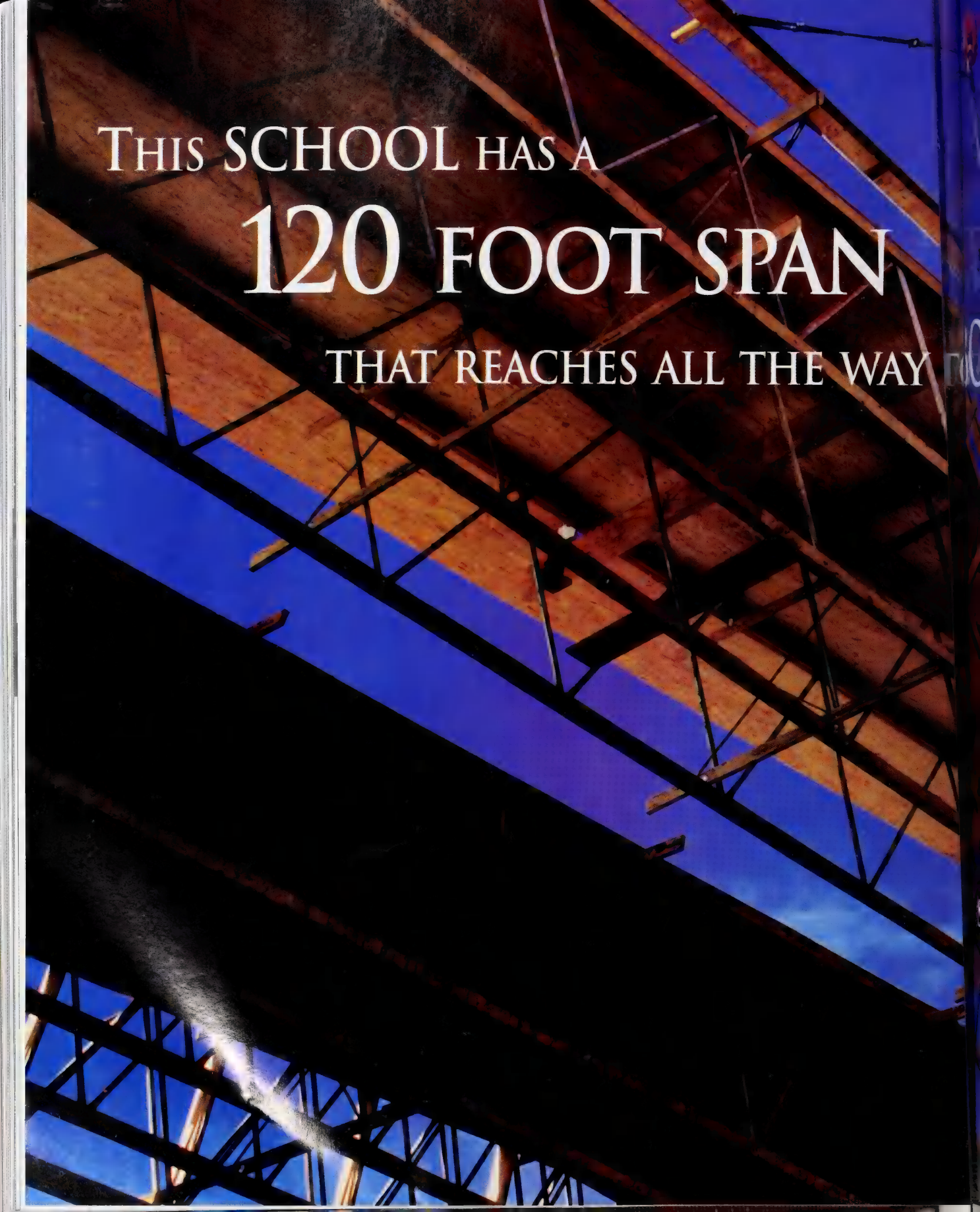
Sources

Roof glass: *BGT/Okalux*
Windows: *Pilkington*
Stone cladding: *Galicia Capri*
Plaster: *British Gypsum*
Luminaires: *ERCO (in foyer, shops, main and lower stairs, first-floor gallery, auditorium, Reading Room, restaurant, education area)*
Great Court stone fixings/ties: *Unistrut Fixings*
Glass balustrade and lower-stair handrail: *Glazzards*

WWW For more information on the people and products involved in this project, and a detailed description of the Reading Room restoration, go to Projects at **www.architecturalrecord.com**



A steel-and-glass bridge leads from the upper level of the ellipse to the galleries in the north wing, creating a new route through the museum. Specialists repaired cracks in the Reading Room dome (opposite, bottom) with a flexible fabric and restored the original 1857 color scheme. The stacks (opposite, top) now hold a public reference library.


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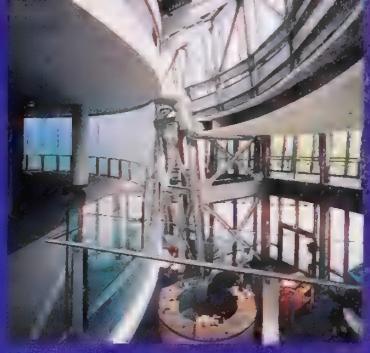
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CIRCLE 47 ON INQUIRY CARD



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PRODUCT: Solarban® 60 Glass | GLASS FABRICATOR: Northwestern Industries, Inc. | GLAZING CONTRACTOR: All New Glass, and Evergreen House Inc.

Photography: copyright © Callison Architecture/Chris Eden

CIRCLE 48 ON INQUIRY CARD

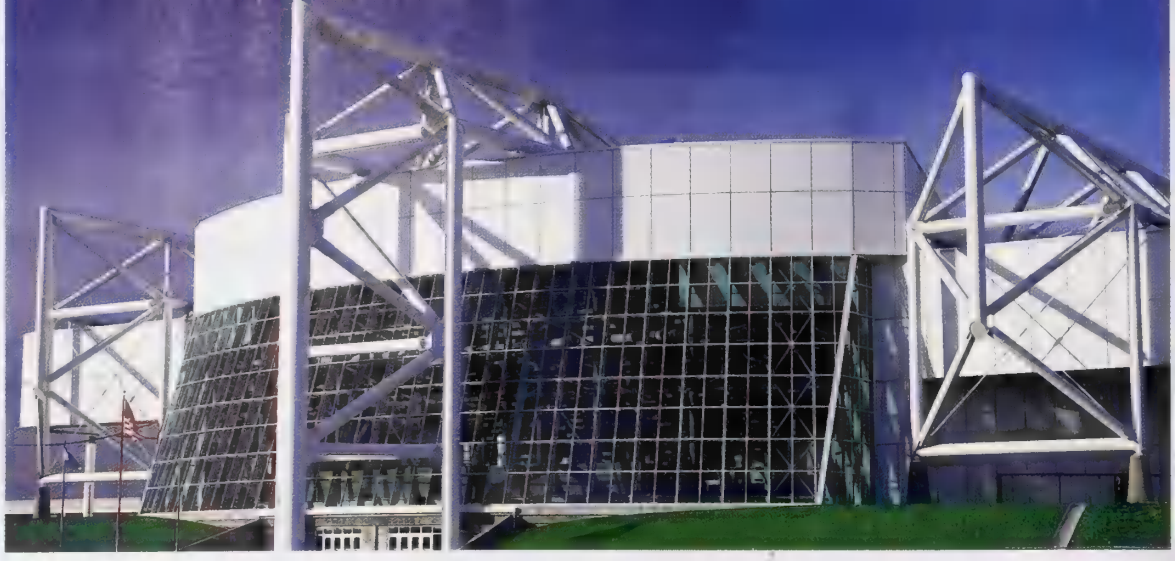


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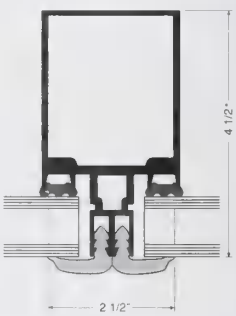
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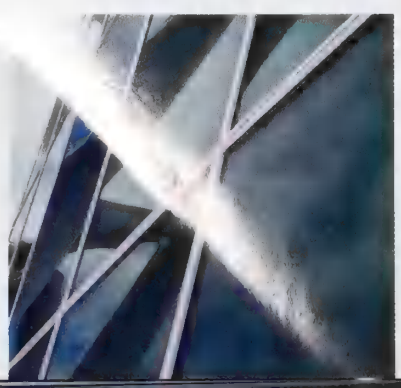
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CIRCLE 49 ON INQUIRY CARD

Form Follows Process

CITIZEN INVOLVEMENT IN THE DESIGN OF PUBLIC PROJECTS CAN BE FRUSTRATING, BUT MORE ARCHITECTS ARE USING THE PROCESS TO CREATE EXPRESSIVE AND RESPONSIVE ARCHITECTURE.



1.

Bronx, New York

The arresting geometries of a community center by Agrest and Gandelsonas contrast invitingly with the ranks of public-housing towers it serves.



2.

Brooklyn, New York

Hanrahan + Meyers removed the "housing-project" stigma from an intimidating gym as they wrought a new community forum.



3.

Lawrence, Kansas

A community health facility by Gould Evans Associates offers an architecturally welcoming face for patients seeking public-health services.

By Lisa Findley

Architects have long grumbled that design for public buildings is too often smothered by endless public meetings, community-consultation processes, design-review boards, and charrettes. Rather than possessing a clarity in concept and an expressive form, buildings can become architectural camels, cobbled together from elements put in the project to please various noisy constituencies. The prominence of process has been forged over the past 30 years with the rise of what Craig Hartman, FAIA, partner at Skidmore, Owings & Merrill's San Francisco office, calls "hyper-democracy." Living in what is arguably the most process-oriented city in America, he should know. "In order for any project, public or private, to get built in San Francisco, it must have public consensus."

In hyper-democracy, every person's voice is as valid as every other person's—regardless of training, affiliation, or intention. While no one denies the legitimacy of citizen involvement, many architects see too few limits placed on lengthy and contentious approval processes. Civic activism is not vanishing any time soon, however. Architects may idealize the idea of sequestering themselves in their offices, forging an elegant architectural statement out of the circumstances of the project. "The process" won't stand for it; the hyper-democratic public expects to be consulted. While architects are rarely trained in the diplomacy needed to deal with the nuances of the public's numerous agendas, many are learning to make the public process a desirable fact of life.

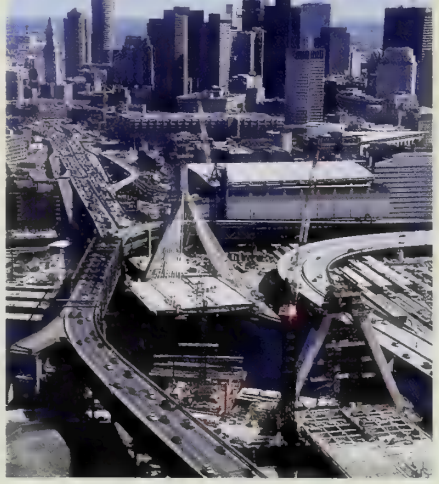
Public involvement is integral to the strategy of Simon Martin-Vegue Winkelstein Moris (SMWM), of San Francisco, which participates in very large scale projects. "I look at managing public input as just another design problem," says SMWM principal Karen Alschuler. The firm designed a public-engagement process playfully named the Planning Game, an exercise that occurs in a series of workshops intended to harness the energy and passion of the public. SMWM presents groups with issues related to the project (fine-tuned to the locale and to the community's greatest concerns) and charges citizens to find a solution. Height limits had emerged as a key concern in the vast redevelopment of San Francisco's Mission Bay district. So SMWM made game pieces out of colored foam coreboard. They supplied real data and parameters for the project, then asked workshop participants to arrange the pieces on the site plan themselves to study and see the consequences of various building-

Contributing editor Lisa Findley writes about architecture and teaches at the California College of Arts and Crafts.

NEW: **For additional public projects** go to Building Types Study at **www.architecturalrecord.com.** The monthly expanded Web BTS features project descriptions, photographs, drawings, statistics, and links to people and products.

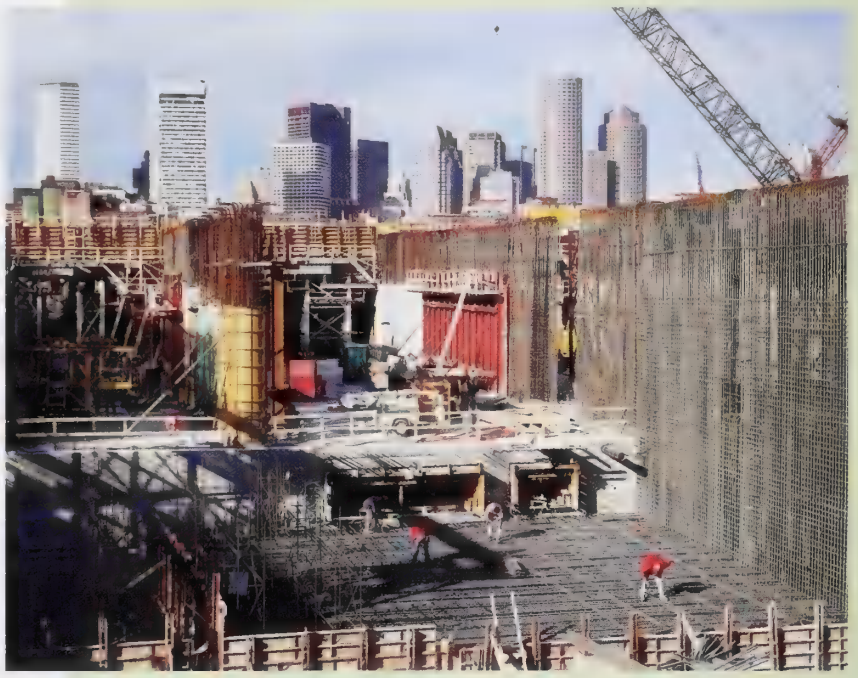
height configurations. The game doesn't make citizens the designers, emphasizes SMWM senior associate Evan Rose, but they do learn about the consequences and trade-offs that design decisions entail. SMWM, too, learns a great deal from these exercises, according to Rose, and analyzes, distills, and applies this knowledge in its subsequent design work.

It is on the basis of the firm's success with large-scale infrastructure projects that SMWM was brought in on the vast and contentious Central Artery Project in Boston. This enormous $14 billion undertaking is putting seven miles of freeway underground, thus liberating a huge swath of new open space in the center of the city. The costs and logistics of the "Big Dig" have been so all-consuming that the city is only now getting around to defining what this new space will be used for. According to Rose, one of the key challenges in preparing the Corridor Master Plan was helping well-organized and fiercely independent neighborhood groups see the artery as a regional resource of enormous potential rather than real estate to be parceled off in bits to aggrandize various group's desires. A version of the Planning Game helped local interests see their ideas within the larger political picture and prioritize the nature of public uses, from passive open spaces to active public plazas.





Simon Martin-Vegue Winkelstein Moris is coordinating the input of numerous neighborhood groups to determine the future of open space created in Boston's city center by the vast Central Artery Project.



Architects are finding that part of their role in "the process" is to explicitly expose the public to the benefits of design. Architect Mark Robbins, director of design at the National Endowment for the Arts (NEA), sees the NEA as a bully pulpit, helping more communities recognize "that good design is a public good." But he also sees numerous examples of architects making the public process work for architecture.

"It's easy to forget how little people understand about design's vocabulary and way of thinking," he says. "When we invite people to envision what a project can be, we can talk about how landscape, for example, is not just about azaleas or rhododendrons, but is about an attitude to infrastructure—lighting, bus stops, how streets are made. Educating the public can raise their aspirations to be as high as those of designers."

People also learn from seeing how nominally similar projects built elsewhere can exceed expectations. "Citizens realize," says Robbins, "that their project, if done well, could be one that others will follow." Steven Goldsmith, planning director of fast-growing Salt Lake City, is raising design awareness through an exhibition and conference tied to next year's Olympic Games. Called *The Physical Fitness of Cities*, it will present "best practices" worldwide. "People here will get very excited by what they'll see," he explains. "I will be able to tap into that memory later when we ask them to make choices about the future." A new NEA program is intended to further raise design consciousness by sponsoring 10 design competitions for public projects every year.

Committed clients are key to superior public design. Robbins admires Jane Werner, director of Pittsburgh's children's museum. In running a competition for an addition and renovation, "She turned site tours for prospective designers into community events, so they would have a sense of who they were designing for." The NEA also works with the Mayors' Institute for City Design (MICD), which involves public officials in workshops that demonstrate the benefits of design. The MICD tries to turn mayors into champions for design within their communities, a goal that Goldsmith wholeheartedly endorses: "Policy makers tend to be neophytes about design issues and yet they have to buy off on things that to them appear superfluous."

Altering the process from within

A fellowship at a U.S. senator's office may sound glamorous, but, according to Alex Washburn, "You're never seen and rarely heard." One day Senator Patrick Moynihan realized he had the only architect on the Senate's staff working for him. Washburn found himself charged with "doing everything in my power to get Penn Station built" [MARCH 2000, page 68]. One of an increasing number of architects who has done a stint in the public sector, he learned that maintaining a project's design integrity has to do not only with getting citizens involved, but with obtaining funding and resolving agency turf battles.

Tom Aidala, as the principal architect and urban designer of San Jose's Redevelopment Agency from 1982 to 1996, was able to show that a redesigned downtown and a series of award-winning public buildings and housing projects could drive a city's transformation.

The success of the General Services Administration's Design Excellence Program [FEBRUARY 2000, page 62] has spurred local governments to follow its lead. In Houston, a group of young architects who had actively pressured the city to improve the design of public facilities now finds itself working for the City Building Services Department, newly split off from a much larger public-works department. The group is rewriting guidelines for the hiring of architects for city projects. The department will now mediate between the city client agency, community groups, and private-practice architects. In addition, the group is overhauling the haphazard way that both project budgets and schedules are set with an eye to making them more realistic. As William Williams, a senior architect with the new department, observes, the most common ways for a city project to end up in political trouble is to exceed the budget or fall behind schedule.

More than one person has said that, in Seattle, they like the process better than the product. John Rahaim learned this firsthand when he moved from Pittsburgh not long ago to run two government entities charged with smoothing the public process: the Seattle Design Commission, a board composed primarily of design professionals and charged with design review, and CityDesign, a kind of government-run urban design firm [JANUARY 2000, page 196]. He sees CityDesign as more proactive, able to begin public involvement and raise key issues before design work begins. The idea is to avoid having the process ambushed by unidentified concerns or red-herring issues raised by project opponents at very late stages. The Design Commission has also become less reactive than such boards often are, rationalizing public input into city projects and making sure design integrity does not fall victim to politics surrounding a site or project.

The Design Commission recently mediated the dispute-ridden process that has slowed progress on the city's new $66 million City Hall. This most public of public buildings has generated an immense amount of debate, even by Seattle standards. Marilyn Brockman, AIA, managing principal at Bassetti Architects, stopped counting the number of public meetings "somewhere after 50." (The project is a joint-venture design of Bassetti and Bohlin Cywinski Jackson.) With the City Council, the commission urged design principal Peter Bohlin, FAIA, to take the schematic design back to the drawing board when a number of disputed areas remained unresolved. After 16 months and three major revisions, the result is a building that the design team, the Design Commission, and the City Council blessed with concept approval in mid-January.

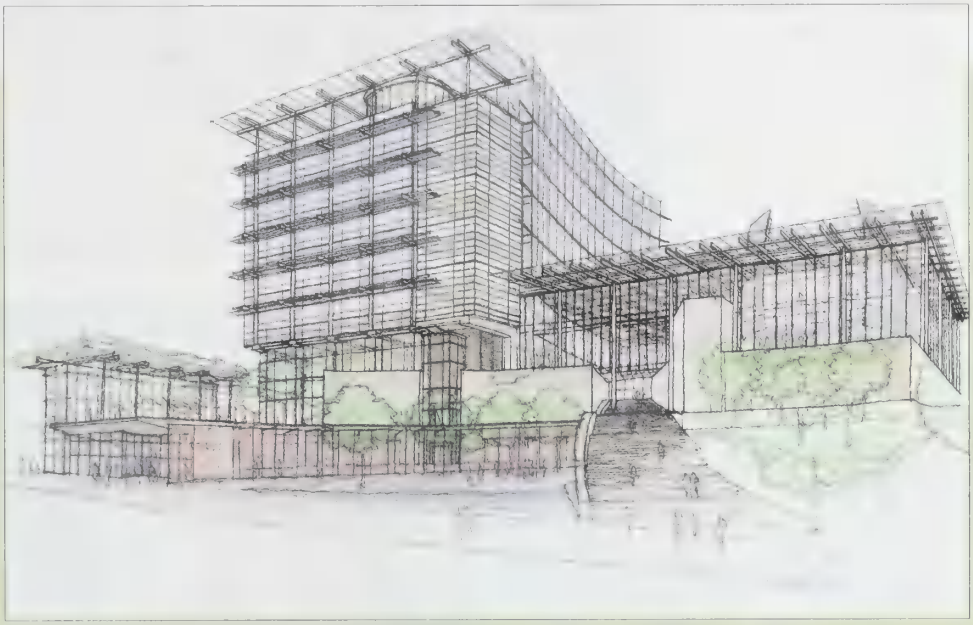
"EDUCATING THE PUBLIC CAN RAISE THEIR ASPIRATIONS," SAYS MARK ROBBINS, NEA'S DIRECTOR OF DESIGN.

Washburn also learned that architects can successfully balance the interests that inevitably accompany complex public works. "Sometimes you have to go back to the community and say why we're doing one thing when they had said they wanted something else." But he found that the architect's vision—in three dimensions—can often prove persuasive.

Is the public process worth the cost?

Do all the boards, facilitators, and dozens of public meetings pay off? Evan Rose, of SMWM, defends today's consultative approach. Not only does the architect receive useful information not found in client programming documents, but "unanticipated controversies can bog down projects," he explains. "Three months of intensive community process saves time and money in the long run."

A few key strategies go a long way in assuring architectural quality throughout a public project. A project lacking a realistic program, budget, and schedule—including an honest assessment of resources needed for a constructive public process—is much more likely to run aground on the shoals of shattered expectations. Architects are often in a unique position because they understand what is essential to a quality project. "When you have a fundamental vision," says Washburn, "you know what's negotiable."



It took 16 months and three major revisions to gain concept approval for Seattle's new City Hall, a joint-venture design of Bassetti Architects and Bohlin Cywinski Jackson.

Clients often say that the architect's attitude is crucial to the success of the project. Architects who take seriously their responsibility to educate citizens win trust and respect. They recognize that the everyday argot of the architecture office can be incomprehensible to citizens. People gain trust in architects who help them understand what all those lines on plans and sections mean. Architects successful in the public process listen, show that they understand the concerns, and respond constructively without being defensive.

Even the most sensitive architects cannot win all the public battles. Sometimes the loudest or most influential people simply hijack the process. "We need to be better at drawing the line," says John Rahaim, "to say 'we hear what you are saying, but we have to agree to disagree.'"

"Architects should never underestimate their ability to affect the social fabric of a city," says Goldsmith. "Carefully orienting an entrance can enliven an entire neighborhood." The public process will always demand compromises on the part of architects, however. This is the nature of hyper-democracy. As Mark Robbins notes, experience shows "that engagement with social concerns and good design are not mutually exclusive." ■

Melrose Community Center
Bronx, New York

1 **AGREST AND GANDELSONAS ENRICH A LANDSCAPE OF BRICK PUBLIC-HOUSING TOWERS WITH BOLD, GLEAMING FORMS.**

By Suzanne Stephens

Architect: *Agrest and Gandelsonas Architects and Wank Adams Slavin Associates (for A&G)—Diana Agrest, AIA, and Mario Gandelsonas, AIA, design principals; (for WASA)—George Gianakopoulos, AIA, partner-in-charge; Stan Fabiszak, Ed Bredow, AIA, project managers; John Crellin, project architect*
Client: *New York City Housing Authority, David Burney, director of design and capital improvement; Hugh Spence, Department of Community Operations*
Consultants: *Severud Associates (structural engineers), Wank Adams Slavin (MEP engineers), Balmori Associates (landscape), Design 2147 (code)*

Size: *20,000 square feet*
Cost: *$6.5 million*
Completion date: *February 2001*

Sources
Structural system: *Mark & Son Metal Products*
Masonry: *Trenwyth*
Metal-and-glass curtain wall: *Kawneer (curtain wall), Mantech (custom preformed metal panels), Englert (custom standing seam panels)*

WWW
For additional community projects and more information on the people and products involved in this project, go to Building Types Study at **www.architecturalrecord.com**

Program
Visibility, identity, and accessibility—these closely associated attributes shaped the design of a community center serving a lackluster group of uniformly high-rise, high-density, brick housing projects in the South Bronx. Sitting on a promontory-like corner site of 1.78 acres surrounded by Melrose, Morrisania, and Jackson Houses, the striking new center is conceived to serve the entire neighborhood. An average daily number of about 250 children and teenagers now can be accommodated for a variety of sports, music, and dance activities, as well as arts and crafts, photography, and computer workshops.

Solution
The architects, Diana Agrest, AIA, and Mario Gandelsonas, AIA (in a joint venture with Wank Adams Slavin), decided "big bold forms" were the answer. In both their design projects and theoretical writings, Agrest and Gandelsonas have explored how a building is "read." They well know, as Agrest puts it, that the center needed to "create an image of symbolic value that is easy to grasp." "But we didn't want to do a box," she adds. The result is an oval and a bar. The gym is located in the solid elliptical element, while the meeting rooms, workshops, and offices are in the 168-foot-long bar-shaped form, sheathed along 115 feet of its front



PHOTOGRAPHY: © DAVID SUNDBERG/ESTO



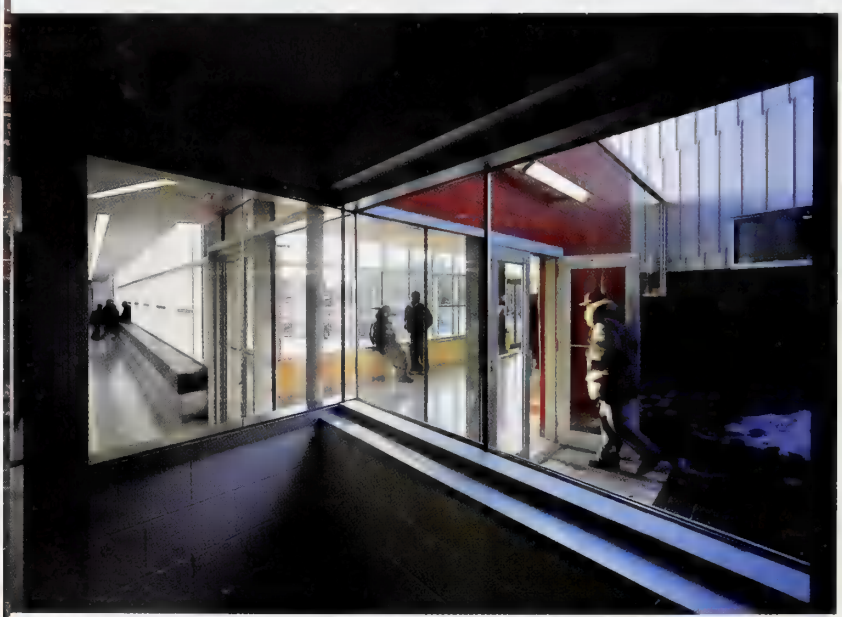
The Melrose Center (whose name may change after a neighborhood contest) serves Melrose, Morrisania, and Jackson Houses at a busy intersection in the South Bronx.

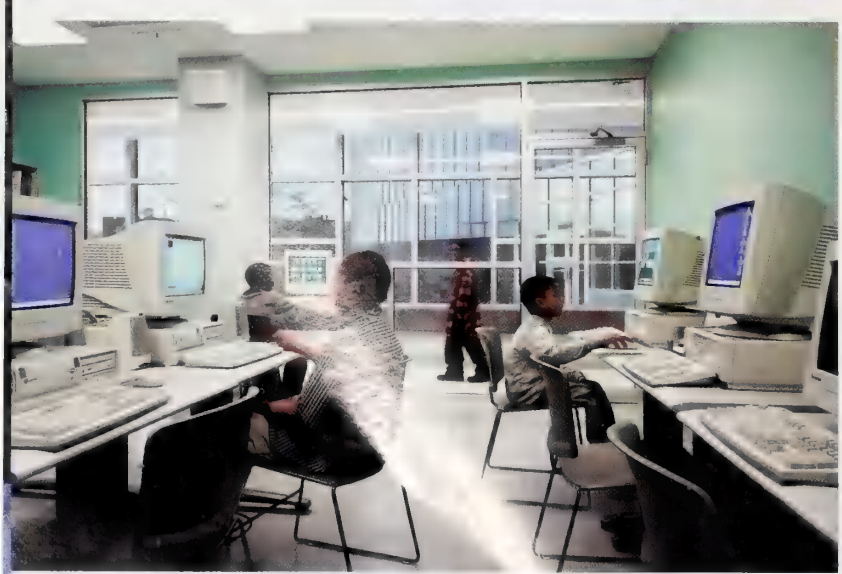
"We didn't want any formal acrobatics," says Diana Agrest, "just something clean and simple." The result is a gleaming oval gym, clad with standing-seam aluminum; the bar building, detached and at an angled remove, features a 115 foot-long glass-and-aluminum curtain wall. Glazed block at the base gives the economical structure added pizzazz.











The Melrose Center program and design was developed with members of the local community, who did not want a fortresslike structure. "The people really seem to respond to the building," says Mario Gandelsonas. "Already you see activity in there all the time." The main entrance (left) to the center opens into a glass link between the bar building (above) and the gym. Inside the bar are offices and workshops for arts and computers, plus a multipurpose dining space.

face with a glass-and-aluminum curtain wall.

"These large simple shapes hold the site," Agrest notes, pointing out the placement of the elliptical form near the edge of the amorphous piece of property, and the bar's alignment with a diagonal major street. "With the elliptical shape and the bar, we created an anchor that at the same time generates a sense of dynamism."

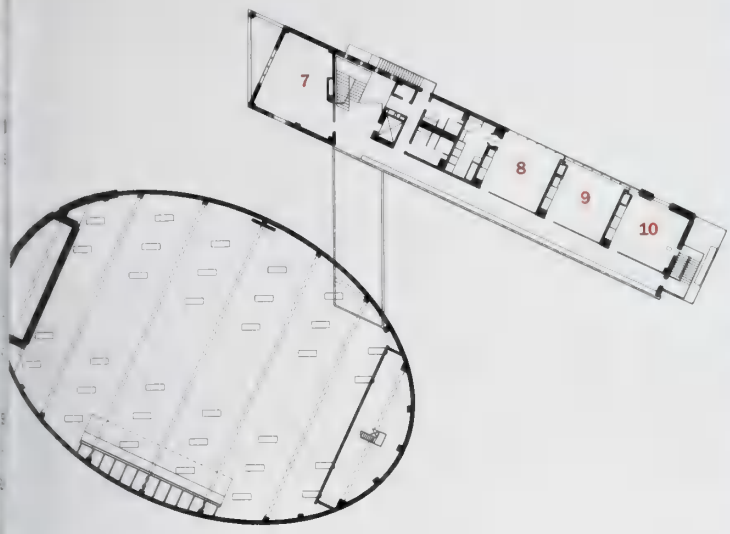
Naturally, having so much glass in the two-level-high bank of community rooms allows plenty of visual access. But it does sound as if it would invite vandalism. David Burney, director of design and capital improvement for the sponsor, the New York City Housing Authority, says this isn't necessarily so. He finds larger panes of glass are broken less frequently than smaller ones.

Structure and materials

The architects wrapped the gym's steel-frame structure with standing seam aluminum panels used for roofing, and concrete block. Inside, trusses are left exposed, and a mural is planned for the lower walls. Contrasting with the dynamically curved gym is the steel-frame and concrete block bar, dominated by a standard glass-and-aluminum curtain wall.

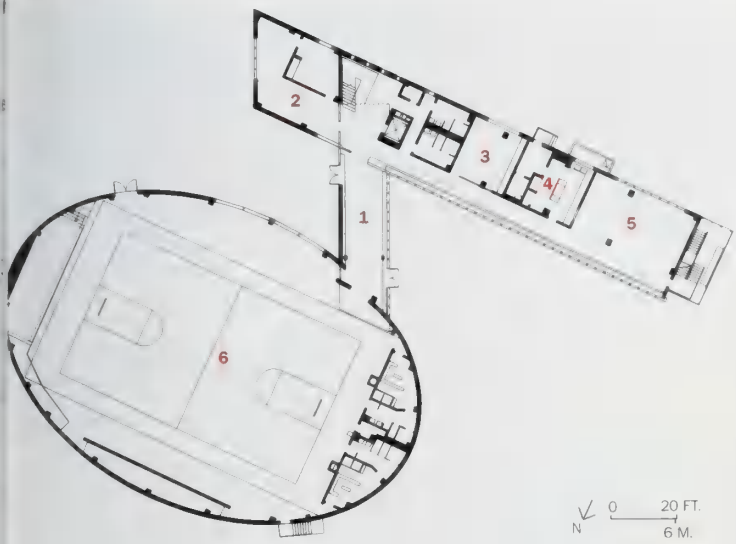
Commentary

The clarity of the forms, even though they are low-rise objects amid high-rise brick buildings, turns the center into an instant landmark. The use of gleaming aluminum and glass, along with colored glazed block and metal panels, jazzes up the place in an elegant manner. On top of that, the lucid separation of the program into distinct, simple forms, and the contrast of opaque and transparent materials effectively signal the different functions. Since the budget was tight, it is remarkable that the translation of design into built form has been achieved so successfully. Agrest, a hands-on architect, admits that the workmen may have been surprised by her persistence. "We had a good rapport. I wasn't there to bother them—just to get things done." ■



COND FLOOR





N 0 20 FT. 6 M.

IRST FLOOR

1. *Entry*
2. *Administration*
3. *Library and computer lab*
4. *Kitchen*
5. *Dining and multipurpose room*
6. *Gym*
7. *Club room*
8. *Darkroom*
9. *Arts and crafts*
10. *Video studio*

The exterior glass curtain wall, along with interior glass partitioning (above), ensures that light permeates the workshops, and provides a high degree of visual access for security. The slot of space between the outside wall and the balconylike corridor enlarges the sense of space. The enclosed gym is topped by skylights (below).



Red Hook Center for the Arts
Brooklyn, New York

2 **HANRAHAN + MEYERS REMOVES THE "HOUSING PROJECT" STIGMA FROM AN INTIMIDATING GYM, TRANSFORMING IT INTO A NEW COMMUNITY CENTER.**

By James S. Russell, AIA

Architect: *Hanrahan + Meyers—Victoria Meyers, Tom Hanrahan, AIA, project designers; Sam Leung, Kevin Lee, Clare Lyster, Stefan de Bever, Jeeyoon Lim, project team*
Client: *New York City Housing Authority*
Architect of record: *Castro-Blanco Piscioneri Associates*
Consultants: *Silman Associates (structural engineering); Munoz Engineering (mechanical/electrical/plumbing); Micelli Kulik Williams (landscape architects)*

Size: *22,000 square feet (existing); 6,000 square feet (new construction)*
Cost: *$2.7 million*
Completion date: *2000*

Sources
Windows, entrance doors, skylights: *Kawneer*
Paint: *Sherwin Williams*
Lighting: *Lightolier*
Plumbing fixtures: *Kohler*

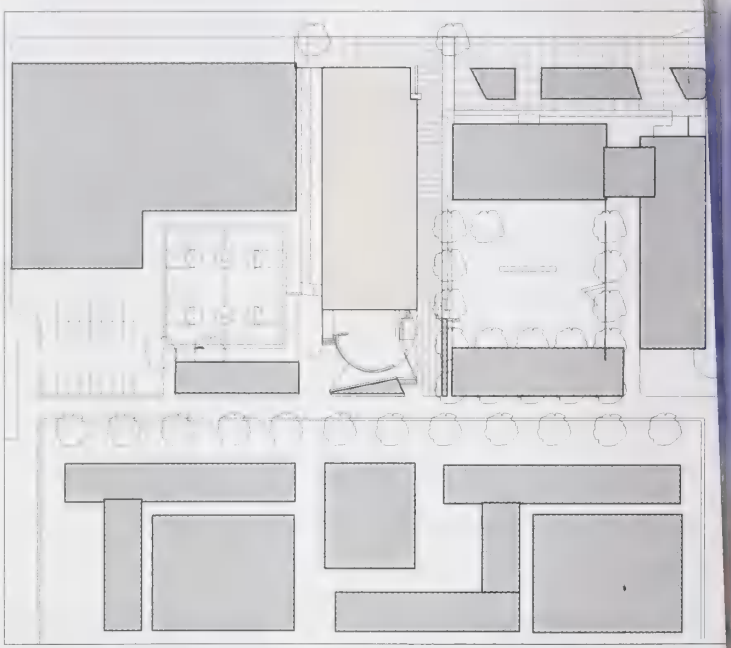
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For additional commun projects and more informat on the people and products involved in this project, go to Building Types Study at **www.architecturalrecord.com**

Program

Civil War era factories, houses, and shipping facilities dot the Red Hook neighborhood in Brooklyn, but it's no sweetly restored enclave of cobblestones and Bishop's Crook streetlights. Instead, it is a long-neglected neighborhood, much of which is taken up by the massive Red Hook Houses, a 1939 public-housing project where 8,000 people live in more than 2,500 apartments.

Until recently, the grimness of the environment found little relief. At the edge of this 15-block tract, in the shadow of the Gowanus Expressway (a roaring, rusting, elevated insult erected in the 1940s), lies the project's recreation building. Once a foreboding red-brick lump, it has been transformed by Hanrahan + Meyers into a lively community gathering place. It is among the first of what the New York City Housing Authority hopes will be from 30 to 40 new community centers. (See page 130 for another new center.) "We have not been able to do any of these in 20 years," says David Burney, director of design for the Housing Authority. "They are extremely popular and long overdue. They offer a badly needed focus for a growing teen population." In one neighborhood Burney named, "your options are either to play in a gym or break into cars."

In early consultation with interested residents and community leaders, it became clear to Victoria Meyers that making the facility open and inviting was a high priority. Since project youth can be looked on with suspicion by everyone from shopkeepers to school officials, "It is hard for me and my peers to imagine how intimidating institutions can seem to people," she explains. The severity of the existing structure, with a massive set of stairs rising half a level to an unwelcoming entrance, made matters worse. The upper level housed a gym, but the community wanted to move away from the perception that the only thing to occupy the largely black youth population was basketball. An alternative high school that had used the lower level was relocated to allow new arts uses.



Design solution

The budget did not permit a teardown or even a major remodeling, but the architects nevertheless approached the project ambitiously. They divided the building by conceptual prosceniums, planar elements defined by light (see analytical drawing on page 139). These architectural moments can be seen as "stages" for displays or performances, or merely as badly needed safe gathering places.

The limestone-clad entrance pavilion offers the clearest expression of the idea. It frames a scaled-up window wall, "present-



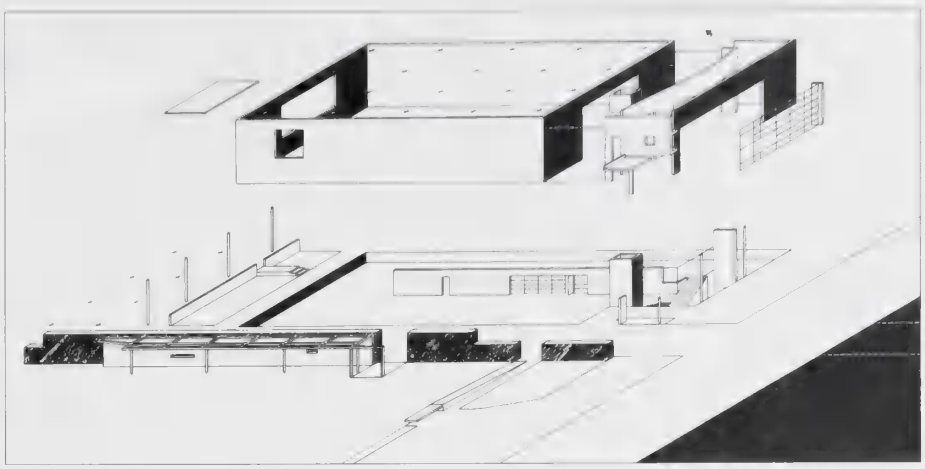
The Red Hook facility is intended to serve the enormous housing project that it fronts, as well as the surrounding neighborhood. Its limestone-clad entrance pavilion (north elevation left, east elevation below) offers a beckoning alternative to the window-barred daycare center next door.



Through large areas of glass, passersby can see a gallery (beyond upper red partition, left) and people lingering at the entrance of the multipurpose space. Red paint under a skylight (opposite) dramatizes the way into the multipurpose space, which opens to the tree-shaded grounds (bottom).

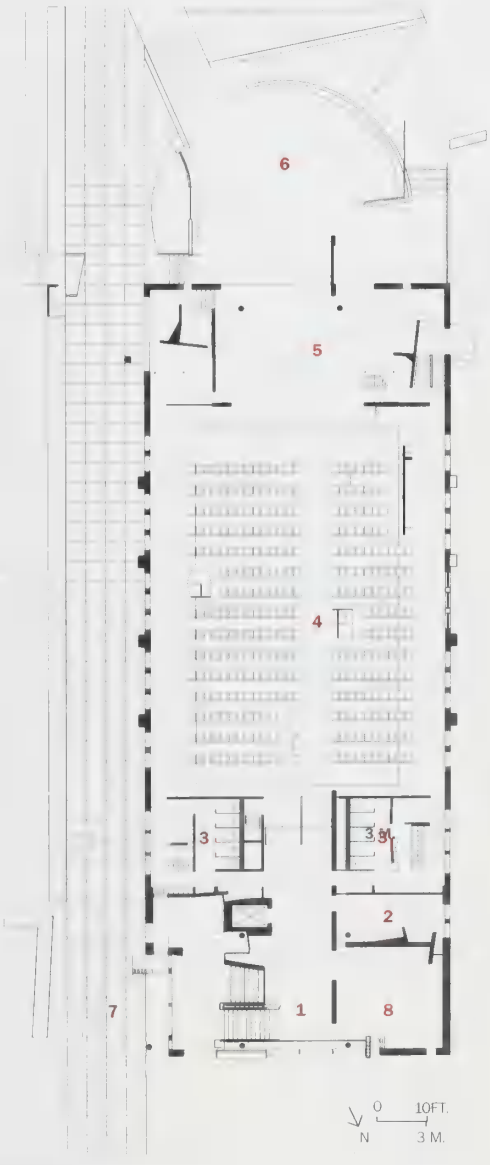






Legend

1. *Entrance pavilion*
2. *Office*
3. *Locker*
4. *Multipurpose*
5. *Indoor/outdoor stage*
6. *Outdoor seating*
7. *Walkway*
8. *Gallery*



MAIN FLOOR

ng" to passersby the activity within. A terrazzo stair, suspended within the volume, activates the obby space and allows daylight to penetrate the former dimness of the lower level. (It also houses an elevator, making the center accessible to the mobility-impaired for the first time.) A skylight mounted behind a curved partition creates an architectural membrane between old and new.

Within the renovated recreation space, the architects rerigged the stage, asserting its new importance by applying bright blue paint around it, and they created a monumental new opening in the rear. Outside the back of the building, a new seating area permits outdoor performances in good weather. For residents who had for decades faced the center's blank back, the opening responds to a fervent wish.

Hanrahan + Meyers rebuilt the lower level to accommodate an arts-and-crafts area, a dining facility (many area children receive subsidized meals), a dance studio, and a library. A classroom will accommodate a new Housing Authority initiative to bring computers to youth whose families may not be able to afford them.

Although crime is dropping and the neighborhood is beginning to gentrify, such an open, appealing, and architecturally sophisticated structure might seem unduly idealistic. Its expression does serve important aims, according to the Housing Authority's Burney. "When we do community centers, we want innovative design that gives them identity and draws people in. It's an opportunity to break away from the relentless brick towers of public housing."

Commentary

Credit the courage of the architects and the Housing Authority. The predominant image of city buildings has been barred windows and cornices of razor wire. However, such community-oriented projects will founder if not well maintained and well managed—not New York City's strongest suit, traditionally. Even though the renovation was completed some months before press time, an as-yet skeletal program has invited vandals to prey on the building because it is so often empty. Instead of a beacon of hope, it could prove another symbol of good intentions gone awry. ■

Lawrence-Douglas County Community Health Facility
Lawrence, Kansas

3

GOULD EVANS ASSOCIATES OFFERS AN ARCHITECTURALLY WELCOMING FACE FOR PATIENTS SEEKING PUBLIC-HEALTH SERVICES.

By James S. Russell, AIA

Architect/interiors/landscape architect: *Gould Evans Associates—David C. Evans, AIA, principal-in-charge; Steven J. Clark, AIA, design principal; Steve W. Harrington, project designer; Steven J. Heilman, AIA, project manager*
Client: *City of Lawrence, Kansas*
Consultants: *Bob D. Campbell (structural engineer); Latimer Sommers & Associates (mechanical/electrical); Landplan Engineering (civil engineering); Yarnell Associates (lighting)*

Size: *85,000 square feet*
Cost: *$11.8 million*

Sources
Brick: *Endicott Clay Products*
Cast stone: *Architectural Art Stone*
Exterior metalwork: *A. Zahner*
Roofing: *Garland*
Doors: *Kawneer (entrances); VT Industries (wood); Elco (metal)*
Ceiling system: *Armstrong*
Demountable partitions: *Modernfold*
Special surfaces: *Duroplex, Polomyx*
Resilient flooring: *Mannington, Forbo, Eudora*

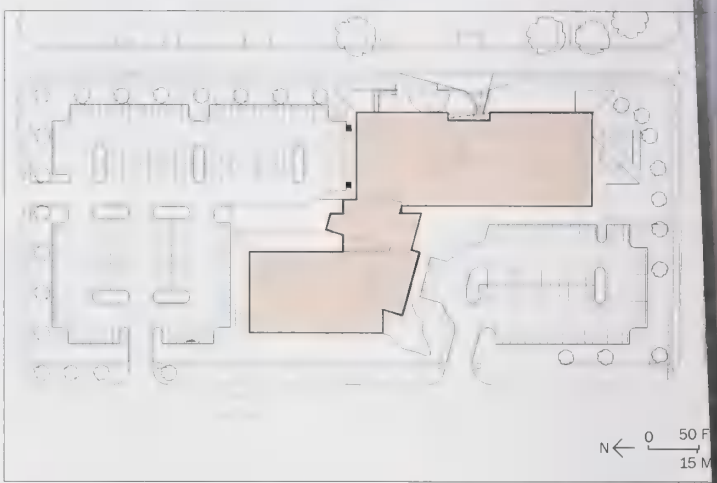
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For additional community projects and more information on the people and products involved in this project, go to Building Types Study at **www.architecturalrecord.com**

Program

An architecturally rewarding experience may not be a top priority if depression holds you in its clammy grip or if you dread the results of an HIV test. And, comfort levels are hardly raised when you're faced with the fluorescent glare, battered drywall, and the plastic chairs scraping across vinyl tile found in many public-health facilities. Things are different at the Lawrence-Douglas County Community Health Facility in Lawrence, Kansas. Those seeking treatment stroll past a fountain into an airy lobby under a sheltering canopy.

The Douglas County facility is unusual in other ways as well. Not only does it present a welcoming civic face for services that many towns would rather not admit to needing, it also unites the services of four kinds of health providers. Housed within are the county health department and three quasi-public and nonprofit private agencies: the Bert Nash Community Mental Health Center, the Visiting Nurses Association, and Hospice Care of Douglas County. Flu immunizations and job training are offered, as are services for both frail elderly and troubled teens. At this community health facility, you can learn to cook, to cope with depression, or both.

It is perhaps more common for agencies with sometimes overlapping agendas to compete rather than cooperate. "We think we're pretty unique," says Marceil Lauppe, executive director of the Douglas County Visiting Nurses Association. "There's a great effort in the community to coordinate services, not to duplicate them." This history of cooperation precedes the agencies' building project, but it was not initially obvious that a new building was even needed. "We first went to the county commissioners about our parking problem," Laupe recalls.

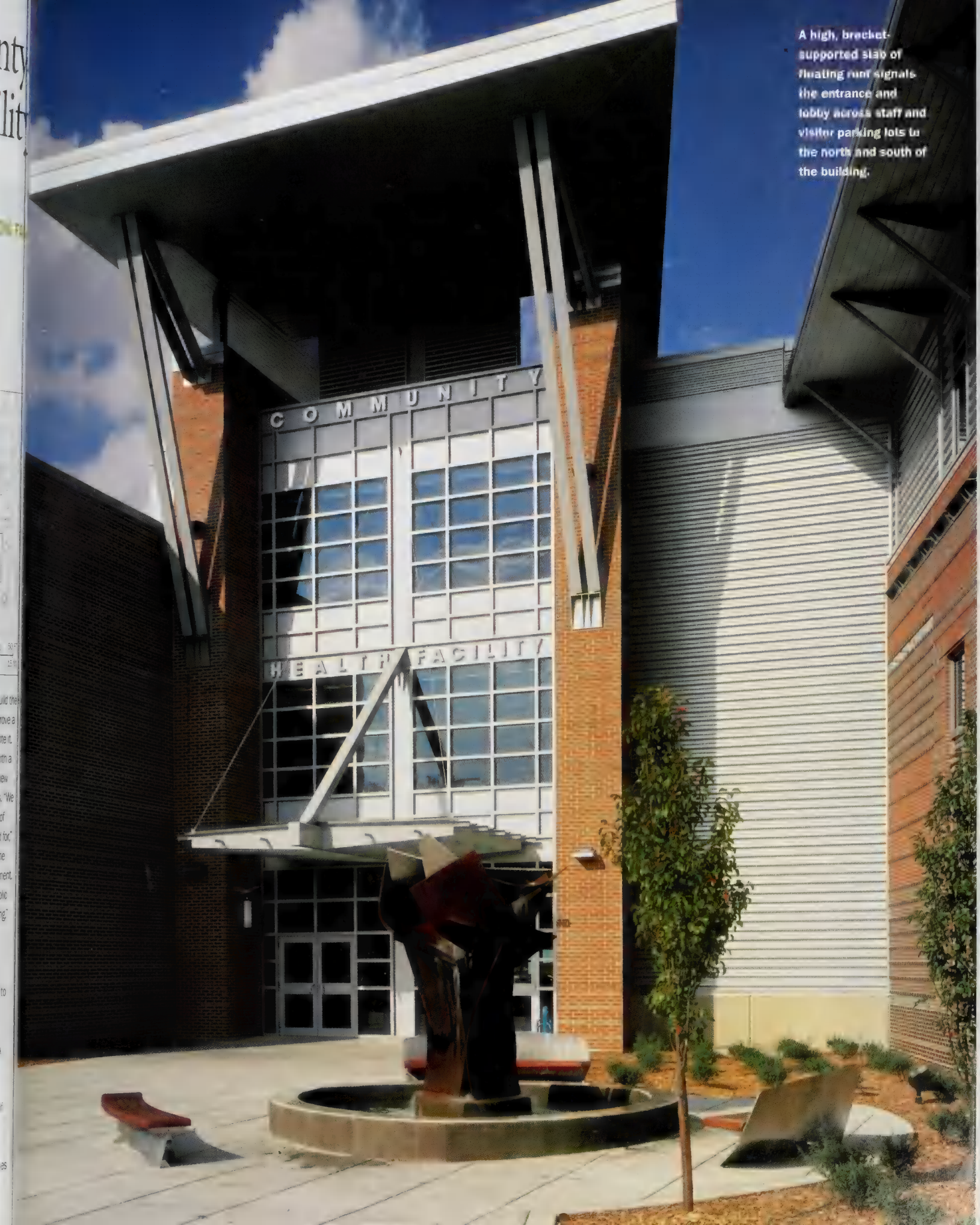


The subsequent discussion about cars overflowing onto neighboring residential streets led to a broader consideration of facilities' needs. "We were housed in an old building connected to the hospital," Lauppe explained. "We realized we had a space problem because Bert Nash had other rented or leased space and our agency was so crowded that we were going to have to lease space elsewhere. The discussion evolved to the consideration of a new building."

The county could only build the project if residents would approve a sales-tax increase to underwrite it. The proposal was packaged with a bond issue for a new jail and new community-recreation facilities. "We had to make the public aware of what the money would be used for," explains Kay Kent, director of the Douglas County Health Department. "We were fortunate that the public was willing to support the building."

Design solution

Lawrence-based Gould Evans Associates laid out the building to give it a singular civic presence while recognizing the individual identities of its client agencies. A racecourse plan in two parallel wings gives daylight access to much of the 85,000 square feet of offices, classrooms, clinics, exam rooms, and meeting spaces. The architects stacked the visiting nurses



A high, bracket-supported slab of floating roof signals the entrance and lobby across staff and visitor parking lots to the north and south of the building.



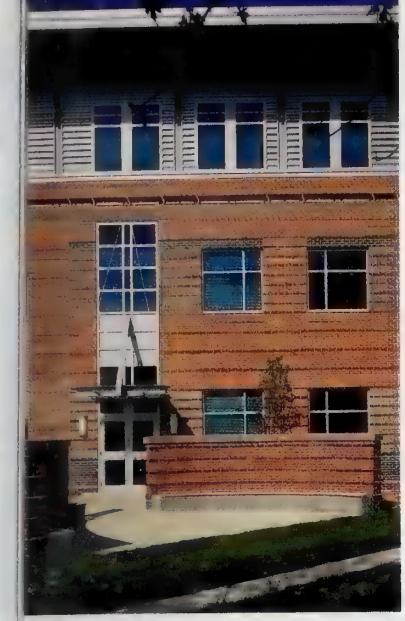
SECOND FLOOR

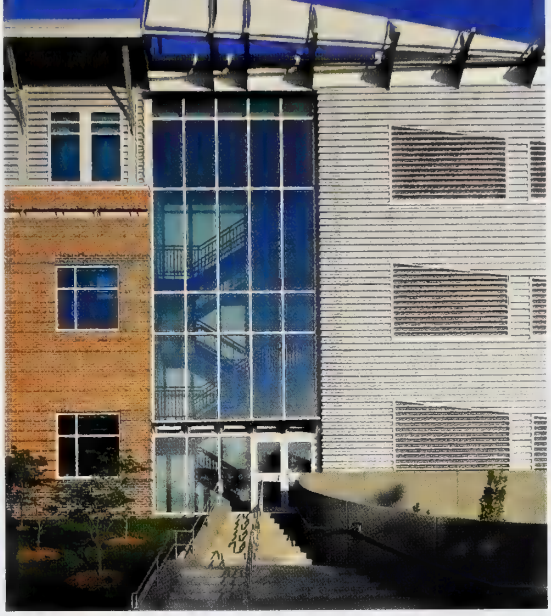
1. *Main entry*
2. *Health department*
3. *Bert Nash Center*
4. *Meeting room*
5. *Adult entrance*
6. *Children's entrance*
7. *Visitor parking*
8. *Staff parking*



FIRST FLOOR

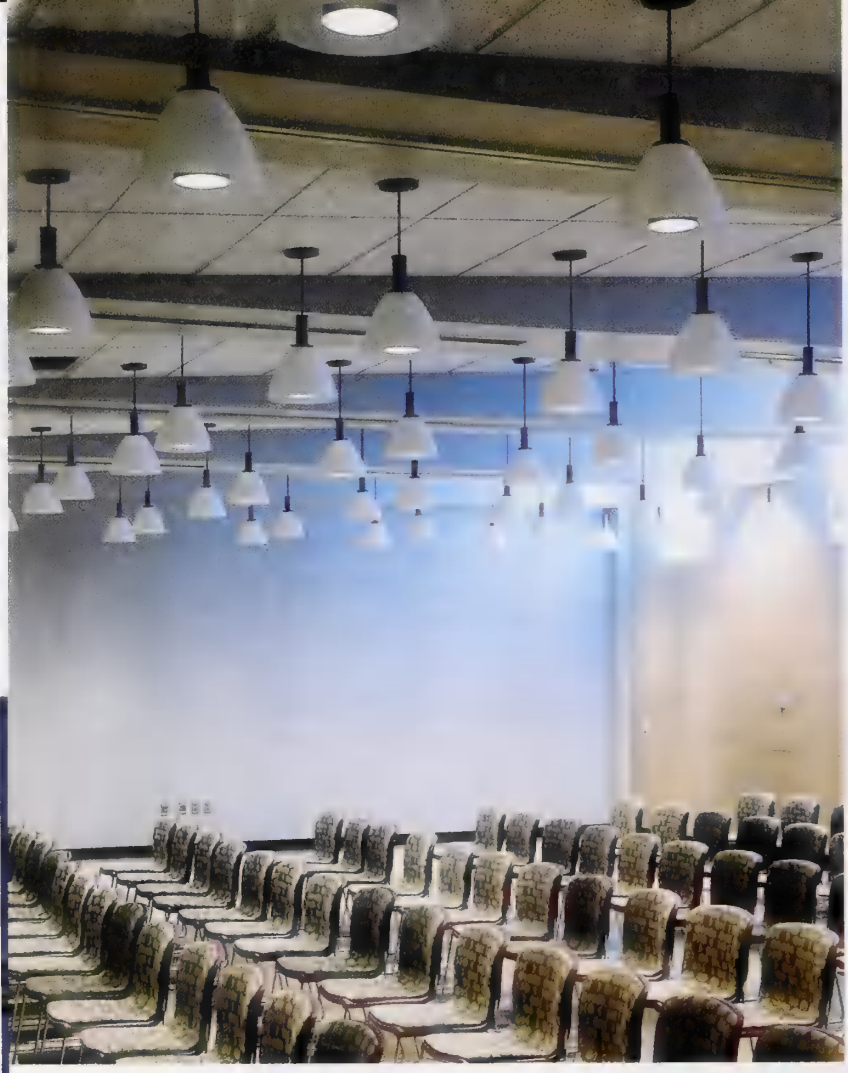


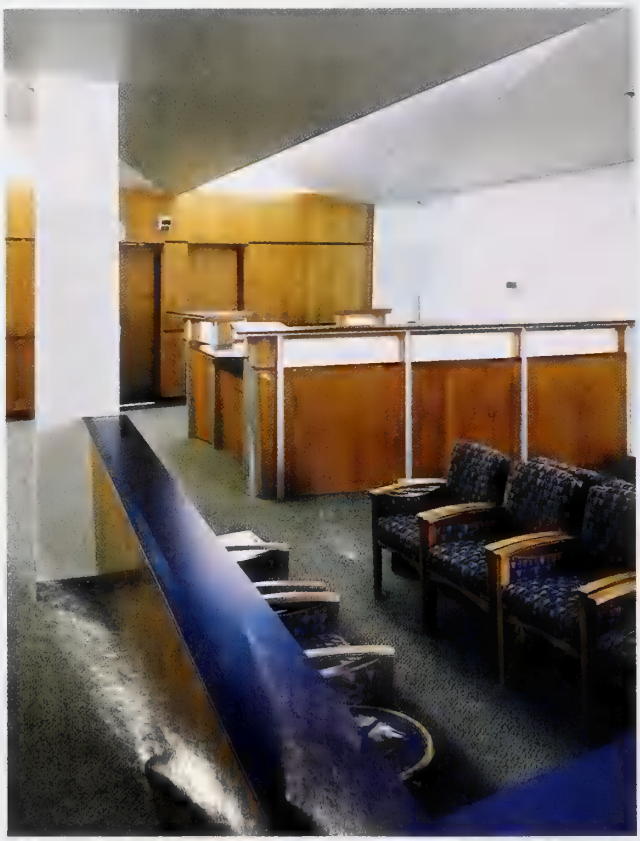




New clients are drawn to the scaled-up main entrance (below), while regular users can enter through special entrances, one for adults (far left, with outdoor smoking area) and one for children (left, next to a small playground).







Among spaces shared by the health facility's tenants is a second-floor meeting room that can hold 225 people (left). Reception areas convey a sense of welcome through a creased ceiling, stained-plywood paneling, and desks with metal insets (below).

and hospice agencies, which have the least need for public access, over two levels devoted to the Bert Nash mental health center. The Health Department occupies a separate two-level wing to the west but is joined to the other agencies by a wedge-shaped lobby. A skewed, two-story block contains meeting-room suites shared by all the agencies.

On the higher wing, corrugated-metal cladding and brackets supporting a projected roof extension suggest the more domestic, home-based nature of the visiting-nurse and hospice services housed within, says Steve Clark, design principal at Gould Evans. The architects brought a more inviting texture to what could otherwise have seemed a collection of mute boxes through recesses in the walls of the higher wings and alternating bands of brick, metal, and glazing.

Since some mental health clients require separation or seek anonymity, a narrow canopy, suspended by cables and a sheet-metal strut, signals a separate entrance for adults returning for treatment or counseling. Before entering, smokers may pause at a semicircular masonry bench built to accommodate them. A children's entrance opens discreetly off the eastern side of the structure. Outside lies a small playground. "The agencies were predisposed to the need for privacy by someone coming in for counseling or an HIV test," says Clark. "They want people to feel comfortable about getting services even if they can't pay for them."

The designers also developed functional efficiencies through the sharing of parking, rest rooms, meeting rooms, and central mechanical systems. Some advantages to uniting the agencies became obvious only after move-in, however. "We share a lot of clients with the visiting nurses," explains Kay Kent. "Yes, we can pick up the phone," she adds, "but sometimes it's important for case managers to talk face-to-face with care providers. Or a teen in our parenting or pregnancy program may need services from Bert Nash. It's so much less scary to them if one of our workers can just walk them over."

Commentary

The modest yet thoughtful effort embodied in this community health facility are a rarity in spite of evidence that inviting facilities can overcome the fear induced by, say, a pregnancy test. Especially when it comes to mental health services, getting people to use those services can prove to be among the most critical steps.

The Douglas County project does not try to fade into the cityscape, nor does it apologize for its function. Its handsome exterior detailing invites public use and inspection. Although the architects deployed the usual serviceable combination of dropped ceilings, drywall, and carpet in the interiors, there are also appealing touches—skylights here, an attractively creased ceiling there, handsome, pendant-mounted downlights in the meeting room—all of which staff members appreciate.

One of the Bert Nash center's recent events was a public forum featuring Robert D. Putnam, author of *Bowling Alone: The Collapse and Revival of American Community* (Simon & Schuster). Putnam writes of the withering of institutions that once created solidarity in towns and cities alike. Douglas County has shown how to build ties that bind through bricks and mortar. ■

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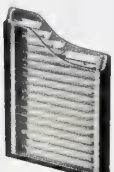


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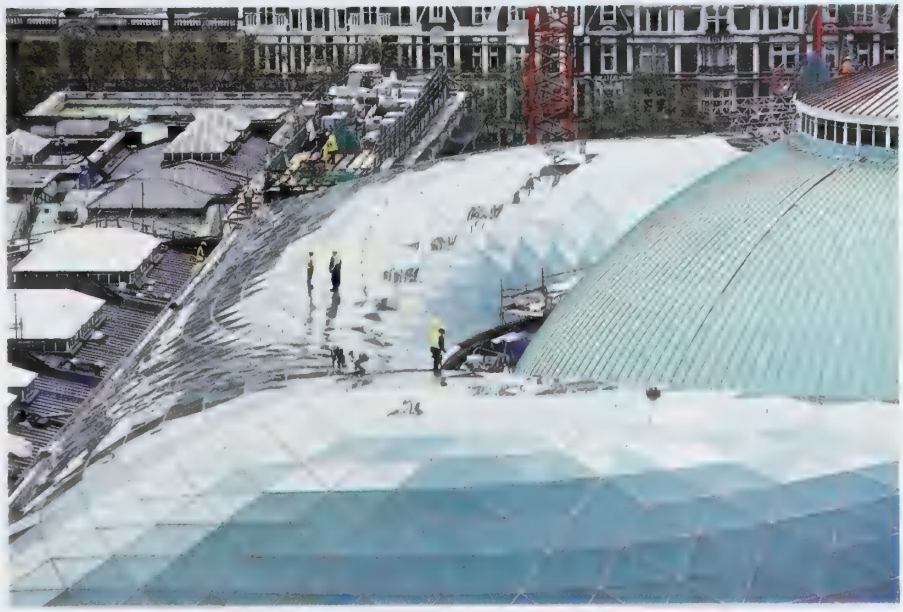
A Brilliant Shell Game at the British Museum

N AN ENGINEERING TOUR DE FORCE, BURO HAPPOLD DRAPED A DELICATE CANOPY OVER FOSTER'S RESTORATION AND REDESIGN OF THE GREAT COURT, CREATING EUROPE'S LARGEST COVERED COURTYARD.

By Sara Hart

Sitting in the legendary Reading Room of the newly opened Queen Elizabeth II Great Court at the British Museum, Buro Happold engineer Stephen Brown demonstrates the structural forces at work on the massive glass-and-steel roof, which covers the two-acre courtyard. He takes a business card and bends it into a segmented arch. With his index finger he secures one end of the arch, and with the other index finger, he presses down on the apex. The unsecured end pushes outward as the arch deflects. The secured end resists the load. Such a simple demonstration, and yet it reveals the mechanics that governs what appears to be a dazzling magic trick.

Buro Happold worked with Foster & Partners on the winning competition entry to develop the Great Court (see page 114). Its role was then expanded from the roof to include all structural, fire, and building services, as well as engineering and planning supervision for the multilayered project. Brown led the engineering team for the Great Court restoration and the expansion below it for a new educational center.



In April 2000, workers installed glass panels on the undulating, spiraling steel grid. The roof spans the Great Court without disturbing Sydney Smirke's famed domed Reading Room.

Norman Foster envisioned a lightweight, transparent shell springing from the drum of the domed Reading Room and resting on the walls of the existing quadrangle. Designing a canopy to span between a circle and a rectangle over a 230-by-328-foot courtyard was a computational and geometric feat in itself. The project was made more difficult by existing conditions and height restrictions. The famous circular Reading Room, designed by Sir Sydney Smirke, is 140 feet in diameter and rises 102 feet from the floor to the lantern of the dome. Built of cast and wrought iron, it was considered an adventurous design in the 1850s. A frame of 20 iron ribs was clad externally with a brick drum pierced by large arched windows between the ribs. According to Brown, "In overall structural terms, the Reading Room is a braced shell in which the iron framing and the brickwork provide mutual restraint and support." Endoscopic tests showed that the structure of the Reading Room was too brittle to endure any movement from lateral loads applied. As a matter of fact, Brown judged the tolerance to be no more than half an inch.

A heavy load

Demolition of the courtyard to create basement levels and new foundations required surgical precision in order to avoid any displacement of the fragile Reading Room. Tight site conditions made the use of standard piling rigs impossible. Instead, a jet grouting system was employed. Constant real-time monitoring of the vibrations allowed the contractor to make adjustments throughout the process. In the end, the final displacement was less than ⅛ inch.

A similar problem regarding lateral loading occurred at the quadrangle facades, which enclose large open galleries with few load-bearing walls to brace the exterior walls. Therefore, these massive facades

CONTINUING EDUCATION

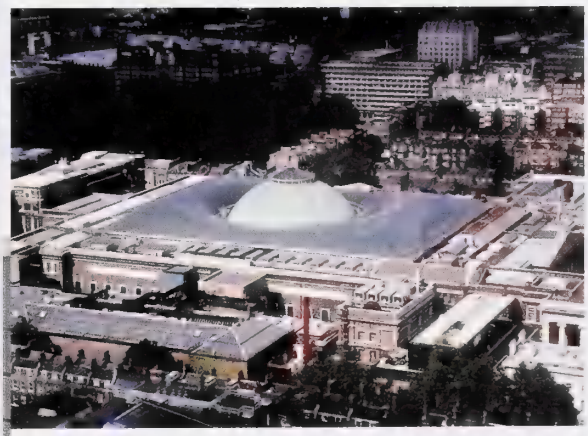
Use the following learning objectives to focus your study while reading this month's ARCHITECTURAL RECORD/ AIA Continuing Education article. To receive credit, turn to page 210 and follow the instructions.

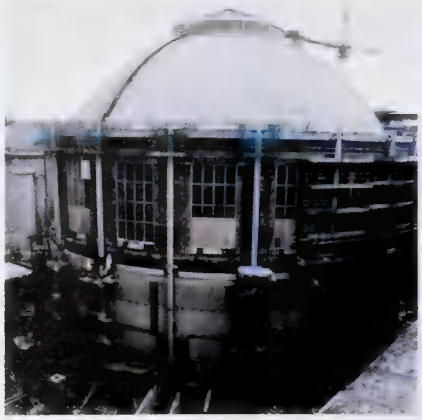
LEARNING OBJECTIVES

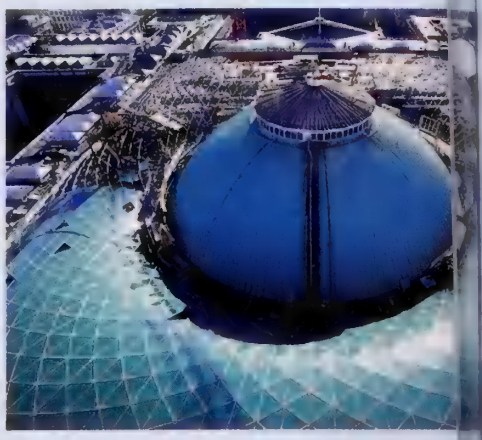
After reading this article, you should be able to:

1. *Describe the structural support for the glass courtyard roof.*
2. *Explain the structural composition of the existing dome and gallery facades.*
3. *Describe the problems that can occur when supporting a roof on the existing perimeter facades.*
4. *Describe how the glass was designed to block out solar radiation.*
5. *Explain the structural composition of the roof.*

WWW For this story and more continuing education, as well as links to sources, white papers, and products, go to **www.architecturalrecord.com**









Sightlines of the famous Reading Room dome (above, left) were maintained after the Great Court canopy was erected. During demolition, the exterior of the Reading Room (above, right) was revealed for the first time in 150 years. Sydney Smirke's innovative use of cast iron is apparent in this 1855 photo (below, left).

essentially have no lateral support. They support only the vertical load of their own weight and the static load of the roof. Brown had to consider how to support the perimeter of the glass canopy on the walls without creating lateral loading. "Any lateral loads [from the roof] would have caused racking and collapse," he explains.

Creating the grid

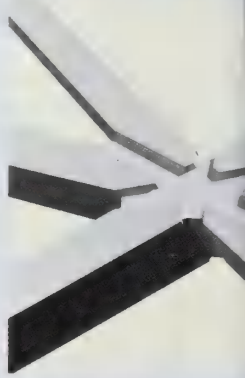
Happold's solution is ingenious. The finished shell is a continuous torus, which many have described as a square doughnut cut horizontally. The shape of the dome is due in part to height restrictions. Because the copper-clad dome is one of London's classic landmarks, the city required existing sightlines to be maintained. This limitation resulted in a toroidal shape instead of a more conventional arch.



The roof's shell structure spans in three directions from the four sides of the quadrangle on to a new seven-foot-wide reinforced concrete slab, identified as the snow gallery, topping the drum of the dome. The gallery is supported on sliding bearings so that it floats above the Reading Room and is supported by 20 new concrete-filled tubular steel columns, which circle the Reading Room and carry the roof load to the new foundation. Therefore, no additional load is applied to the Reading Room, and the columns are hidden behind the Spanish stone cladding of Foster's elliptical facade.

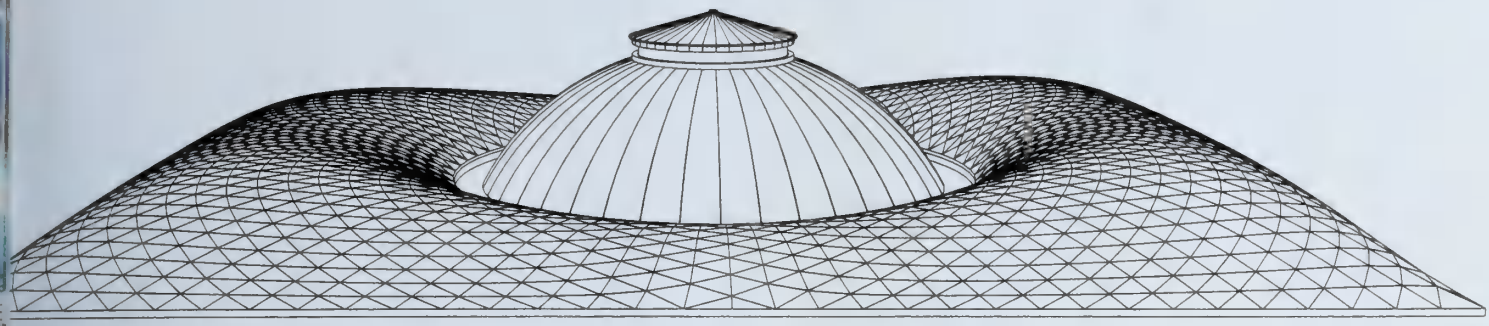
Happold used sliding bearings as well on the quadrangle facades. They allow the roof to spread laterally under load, perpendicular to the relevant facade, and independent of the facades. "This freedom means that for the roof to hold its form, the outer radial members near the perimeter quadrangle must work in bending and compression," he explains. "The structure is further stiffened with a tension cable across each corner."

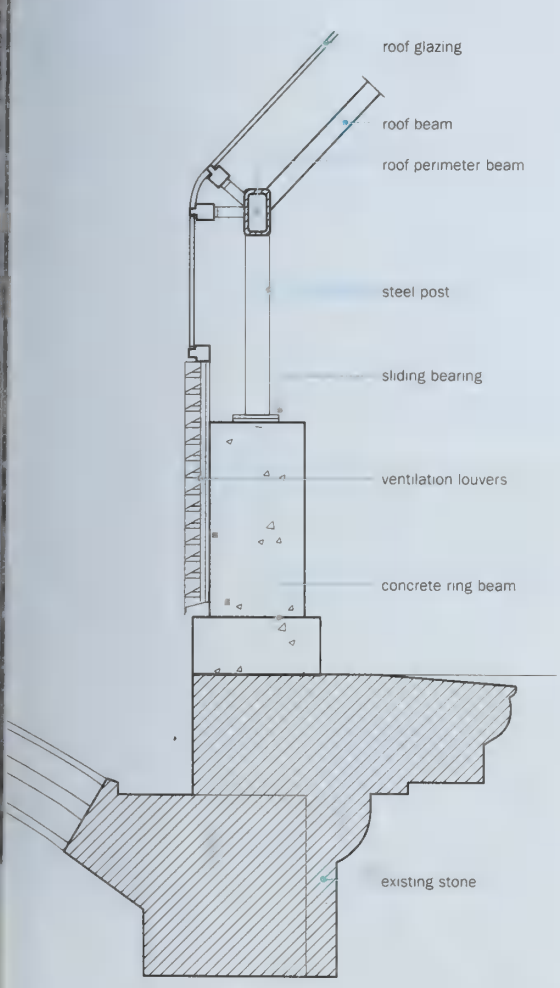
Cross bracing occurs behind each of the four porticoes working parallel to the relevant facade. "At the center of each side of the roof,



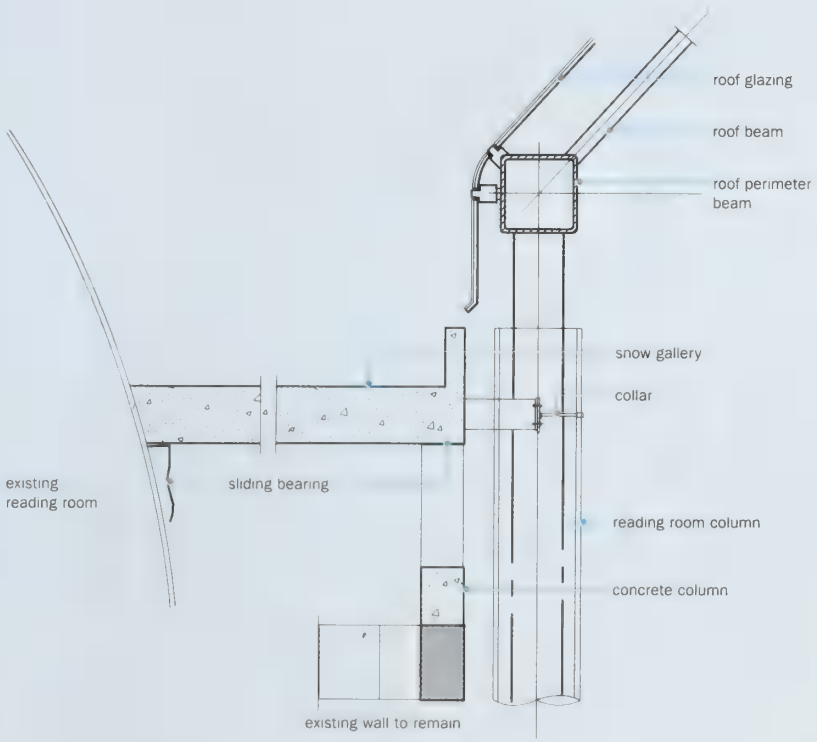
Typical node joining six steel sec

PHOTOGRAPHY: © WILLIAM LAKE PRICE/BRITISH MUSEUM (LEFT)





PERIMETER BEAM



READING ROOM

The roof is supported on 20 new columns placed around the exterior of the Reading Room and on sliding bearings on the quadrangle facades, which allow for natural movement and even distribution of the load. Covering 65,000 square feet, the roof is constructed of 478 tons of steel and 315 tons of glass. Six thousand steel members were welded to 1,826 nodes to form a spiraling grid.





Foster clad his elliptical cylinder (left) with Spanish stone in a simple stacked bond. The four porticoes in the quadrangle were repaired and restored. Rebuilding the south portico took 2,000 tons of stone. The highest point of the roof (above) is 86 feet above the finished floor.

behind the porticoes, the lateral spreading movement of the roof is one-directional, normal to the line of the facade," says Brown.

Happold initially calculated the geometry of the roof using standard static, or linear, computer programming. Such programming considers the structural integrity by examining the gravity effects alone. To study the deformation, a custom dynamic, or nonlinear, program was developed by Chris Williams, a consultant to Happold and a mathematician at the University of Bath. Using a program that described the overall shell mathematically, engineers could modify it and study the consequences of each change.

The roof's structural grid is formed by radial, hollow steel sections (box beams), spanning between the Reading Room and the quadrangle, which are interconnected by two opposing spirals so that the

THE ROOF IS ENVIRONMENTALLY EFFICIENT, CONSIDERING ITS TRANSPARENCY AND ENORMOUS VOLUME.

roof works as a shell. The grid size was determined by the maximum glass size available. For the roof to hold its form, the steel members near the perimeter must work in bending and compression. To achieve this, the steel sections increase in depth from about three inches at the Reading Room to about seven inches at the corners of the quadrangle. The spiraling elements are connected by 1826 structural nodes, to which six elements are welded.

Accurate welding was essential to avoid any possibility of brittle failures. To further reduce the risks, Happold specified Grade D steel rather than a lower grade that might contain impurities. This high-grade steel is often used for marine and offshore applications, rather than construction. The Welding Institute, headquartered in Cambridge, conducted extensive tests and prepared structural welding specifications for the engineers.

The roof is environmentally efficient, considering its transparency and enormous volume. Each of the 3,312 double-glazed panels is a

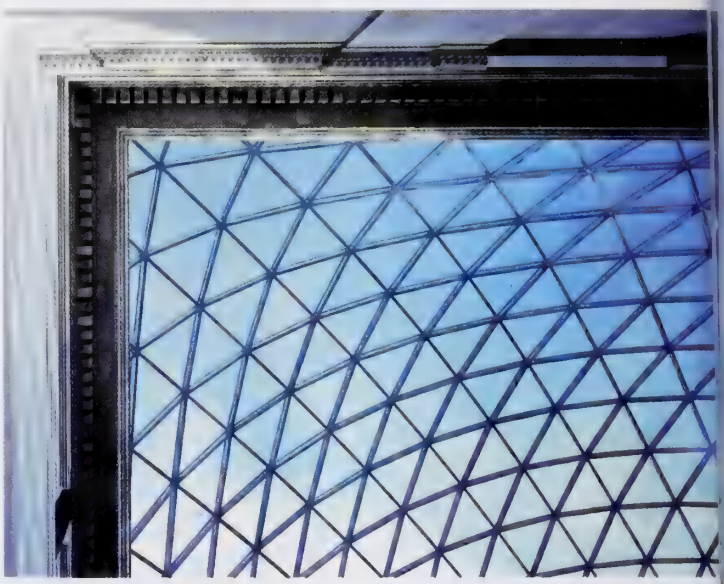
unique triangle. The top panel is tempered glass, while the bottom is laminated. The panels are lightly tinted and fritted with screen-printed dots over 50 percent of their surfaces. The eye still perceives a clear effect, even though the fritting blocks 75 percent of ultraviolet rays and reduces solar gain. Summer heat loads are managed by a custom perimeter ventilation system and augmented by natural and mechanical air circulation. Pipes under the French limestone floor of the courtyard deliver hot or cold air to the spaces. After the museum closes at night, fresh air is drawn in through mechanical plants below grade, and stale air is extracted through vents around the dome drum.

Workers assembled the roof from a weatherproof construction platform raised 67 feet in the air by birdcage scaffolding. Waagner-Biro of

AS PREDICTED, THE ROOF DROPPED SIX INCHES, SPREAD 3½ INCHES, AND SETTLED ONTO ITS SLIDING BEARINGS.

Vienna (which also provided the steelwork for Foster's design of the Reichstag) fabricated the steel sections, which were then assembled into 152 "ladder" beams over a period of six months by B&K Fabrications in Derby, England. Since there was little room on the site for inventory, the beams were transported to the forecourt of the museum and hoisted by giant cranes onto temporary props on the platform and welded to the nodes. During this process, the weight of the sections was transferred from the platform to specific points in the concrete foundation. The exact location of the structural nodes was known, and the props could be adjusted during the welding process. The result is a system of connecting steel members that is accurate to half an inch.

The installation of the glazing followed the steel erection.



The glass-and-steel roof appears to float weightlessly over the Great Court. The grid is made of 3,312 unique glass triangles fritted to reduce solar gain.

When glazing was completed, the props were carefully dismantled. A predicted and designed, the roof dropped six inches, spread 3½ inche and settled onto its sliding bearings. At once grand and delicate, the roo over the Great Court is as innovative today as Sydney Smirke's darin 19th-century Reading Room was 150 years ago. ■

A detailed description of the Reading Room restoration and a list of cred its can be found at www.architecturalrecord.com.

AIA/ARCHITECTURAL RECORD CONTINUING EDUCATION

INSTRUCTIONS

- **Read the article "A Brilliant Shell Game at the British Museum" using the learning objectives provided.**
- **Complete the questions below, then check your answers [page 210].**
- **Fill out and submit the AIA/CES education reporting form [page 210] or file the form on ARCHITECTURAL RECORD's Web site at www.architecturalrecord.com to receive one AIA learning unit.**

QUESTIONS

1. What is the theory behind the arched glass roof that Stephen Brown was demonstrating?

2. What were the challenges of resting a roof load on the existing Reading Room?

3. What were the problems of supporting a roof on the existing perimeter facades?

4. How was the glass designed to block out solar radiation?

5. What is the structural composition of the roof?

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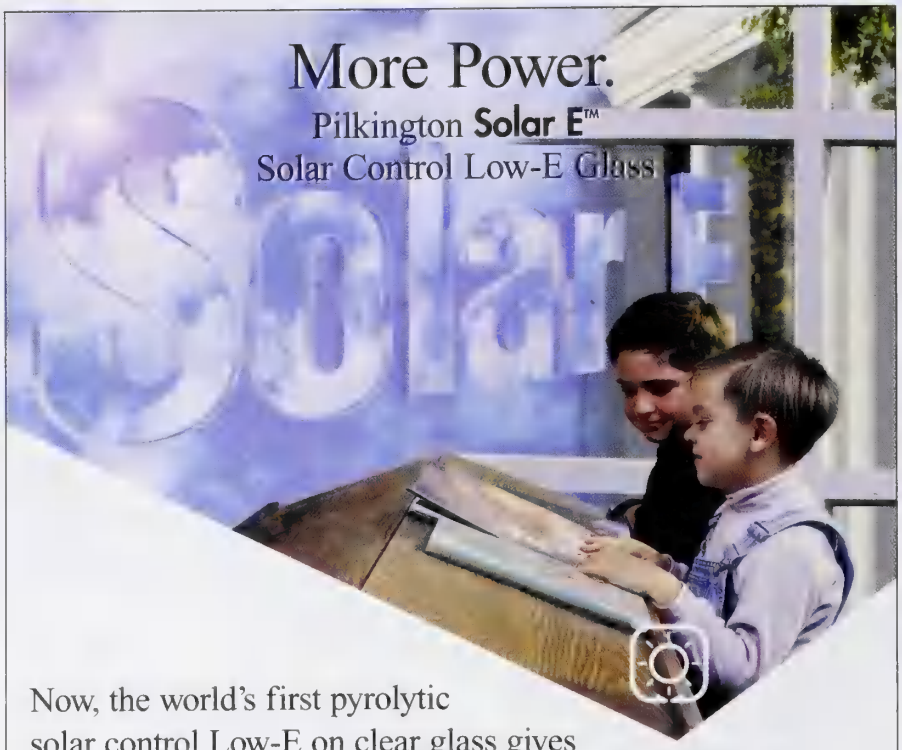
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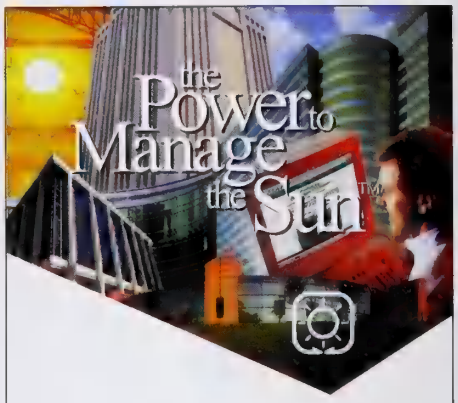
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CIRCLE 55 ON INQUIRY CARD

Tech Briefs

Troubled bridge over water: Arup & Partners takes the bounce out of the footsteps

By now, the entire world is aware that London's much lauded Millennium Bridge, spanning the River Thames from St. Paul's Cathedral to the Tate Modern at Bankside, was abruptly closed 72 hours after it opened last June and remains so. As more than 80,000 excited people paraded across the pedestrian bridge that opening weekend, it began to sway, wobble, and bounce at the south and center spans, making for unsteady footing. By the third day, authorities closed the bridge to investigate the cause of these unexpected lateral and potentially dangerous movements.

The perilous journey began in December 1996, when architects Foster & Partners, sculptor Sir Anthony Caro, and engineers Arup & Partners won an international competition to design the world's longest pedestrian suspension bridge. Their design objective was to create a "fine metal ribbon by day, and a blade of light by night." They achieved this effect using a lateral suspension system with no vertical supports. Four cables on either side of the 13-foot-wide deck carry the bridge. These elements are attached to the deck by arms which, due to the shape of the bridge, are either above or below the cables. In the river, two elliptical concrete piers with steel prefabricated brackets support the cables. Cables are then anchored by abutments on the banks.

The bridge closing caused quite a lot of bad publicity for both architect and engineer, amplified by the media hype swirling around its opening. To begin with, this is the first bridge to cross the Thames in central London since the Tower Bridge opened over a century ago. Second, its closing echoed problems that have plagued several Millennium Commission public works projects, from the much-maligned and unpopular Millennium Dome to the London Eye ferris wheel, which failed to open on time due to mechanical problems (since corrected).



The world's longest pedestrian suspension bridge, which closed shortly after opening last June, will reopen this fall.

In reality, the perceived crisis, while expensive to resolve, is not an engineering blunder. This London bridge is not falling down.

In its "Briefing Document on Investigations and Proposed Modifications," released to the public on September 8, Arup summarized the assumptions behind the original design. The report cites video footage on opening day, which revealed that "individuals tended to start walking in step when conditions got extremely crowded. This synchronizes the lateral forces from individual pedestrians and causes the bridge to sway in sympathy."

"Soldiers break step" is a command associated with footbridges since time immemorial. Synchronized marching across a suspended platform causes dynamic loading, which, in turn, causes oscillation. If this is a fundamental condition, then why didn't the engineers anticipate the problem and design for it? They did, or rather they designed to the codes, which required that only vertical vibrations be considered. Not only did they comply, but they even increased the applied loading considerations by an additional 33 percent. What they didn't anticipate, however, was that the natural lateral modes of the vibration would be similar to the sideways rhythm of footsteps.

To find a solution, Arup engineers investigated "crowd loading" in several laboratory tests and in field trials at the bridge, using pedestrians and creating an artificially induced sway. From these tests three possible solutions emerged: stiffening with heaving bracing and cords under the deck, damping to reduce the dynamic resonance of footsteps, and limiting the number of people on the bridge. The stiffening option was deemed too expensive. Limiting traffic was considered a last resort and public-relations nightmare, which left dampening as the most reasonable approach.

Two types of dampening have been selected: viscous dampers, which work like car shock absorbers, and tuned-mass dampers, which use a large mass suspended beneath the bridge from stiff springs. Because the bridge is intended as an elegant landmark, appearance remains important. The viscous dampers will be the least visible, most likely attached under the deck at the piers. The tuned-mass dampers will be arranged at regular intervals between the underside of the deck and the top of the transverse arms and will be visible but discreet.

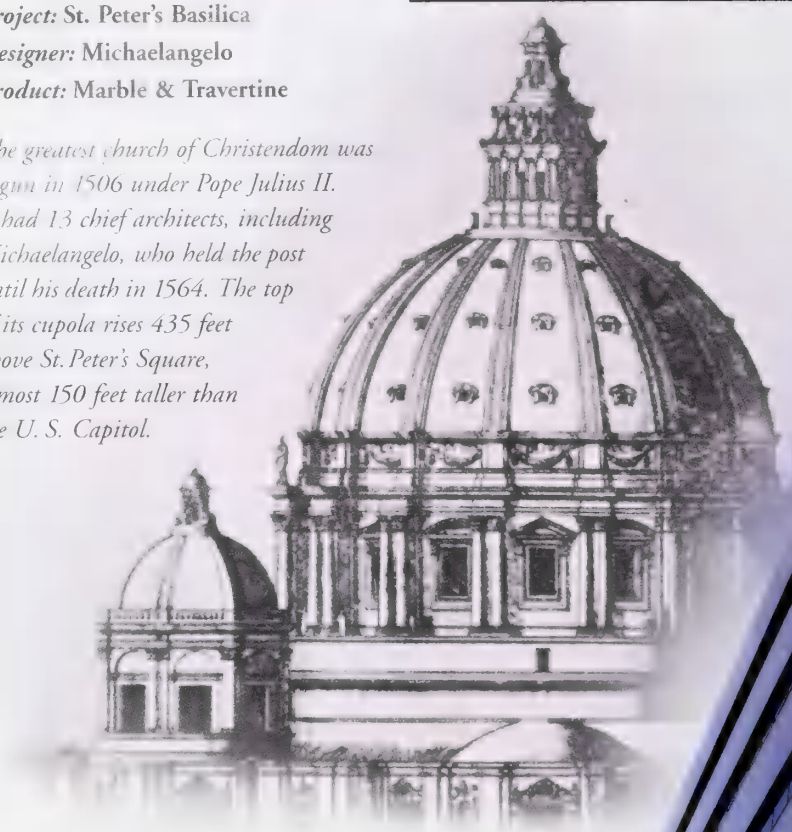
Tests of prototype solutions conducted in December have been approved by authorities. Funding has just been worked out, although details concerning liability have not been disclosed. The $7.5 million correction project will begin in April, and the bridge will reopen in the fall. Then, all will be forgiven and forgotten, and London will have a landmark for the next century. *Sara Hart*

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16th CENTURY STONE

Project: **St. Peter's Basilica**
Designer: **Michaelangelo**
Product: **Marble & Travertine**

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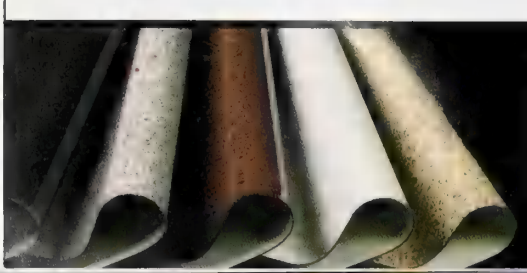


21ST CENTURY STONE

Project: **Capital Commons**
Architect: **Smith, Hinchman & Gryllis Associates, Inc.**
Product: **ALPOLIC® Red Granite**

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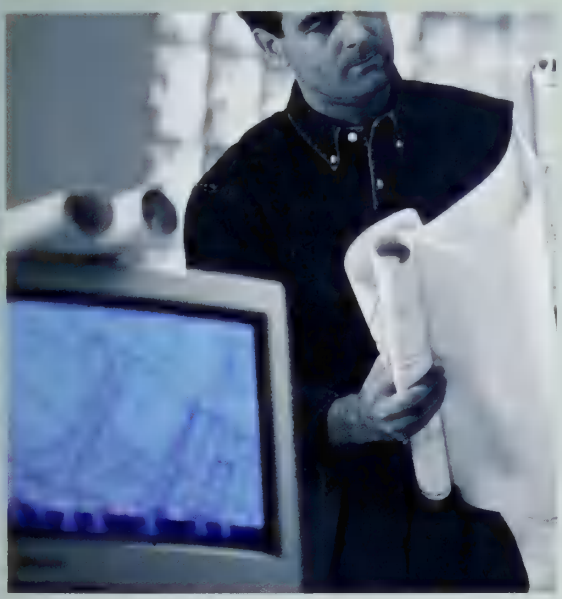
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CIRCLE 58 ON INQUIRY CARD

THE DIGITAL PRACTICE

Stop thinking of technology as anathema. Used the right way, it's a means to an end.



Let me be so bold as to guess why you read the digital practice section four times a year (and even its introduction. Wow. You're a diehard). It's not because you love computers. It's not because you fantasize about the latest release of AutoCAD. It's not because you blow your disposable income on doodle-pad software for your Palm Pilot. You read this section because you love to design. And you hope that what you learn in these pages will help you negotiate the confusing array of gadgetry that, like it or not, is part and parcel of the modern workplace. Above all, you look to this section to discover the tools and products that will let you manage the business of architecture expediently, so you can get back to practicing the art of architecture, that thing you love to do: design.

This month, the feature article about image libraries presents digital options for the age-old problem of keeping track of photographs of completed projects. Anyone who has ever shuffled frantically through trays of slides in search of the right image for a proposal or brochure will appreciate the time and effort saved by storing and organizing images electronically. Our Digital Architect column turns to the topic of design collaboration and explains some Web-based tools that offer features most amenable for architects and their collaborators who work together during the design phase. I believe that both of these pieces, along with the latest news and software reviews, offer the kinds of information that will help you spend less time managing and more time designing your projects.

We do our homework when we choose which stories to cover, but I encourage you to help keep us relevant. If there's a topic you think needs attention in this space, we want to know. If there's a techno tool your office can't do without, or one that turned out to be a dud, we'd like to know that too. It's spring-training time, and a baseball analogy works here: Think of us as sign stealers, like the beleaguered 1951 New York Giants. We follow technology so you don't have to, so we can tell you when the fastball's coming high and tight. Your job is to hit the fastballs out of the park. That's what we want to help you do. Play ball. *Deborah Snoonian, P.E.*

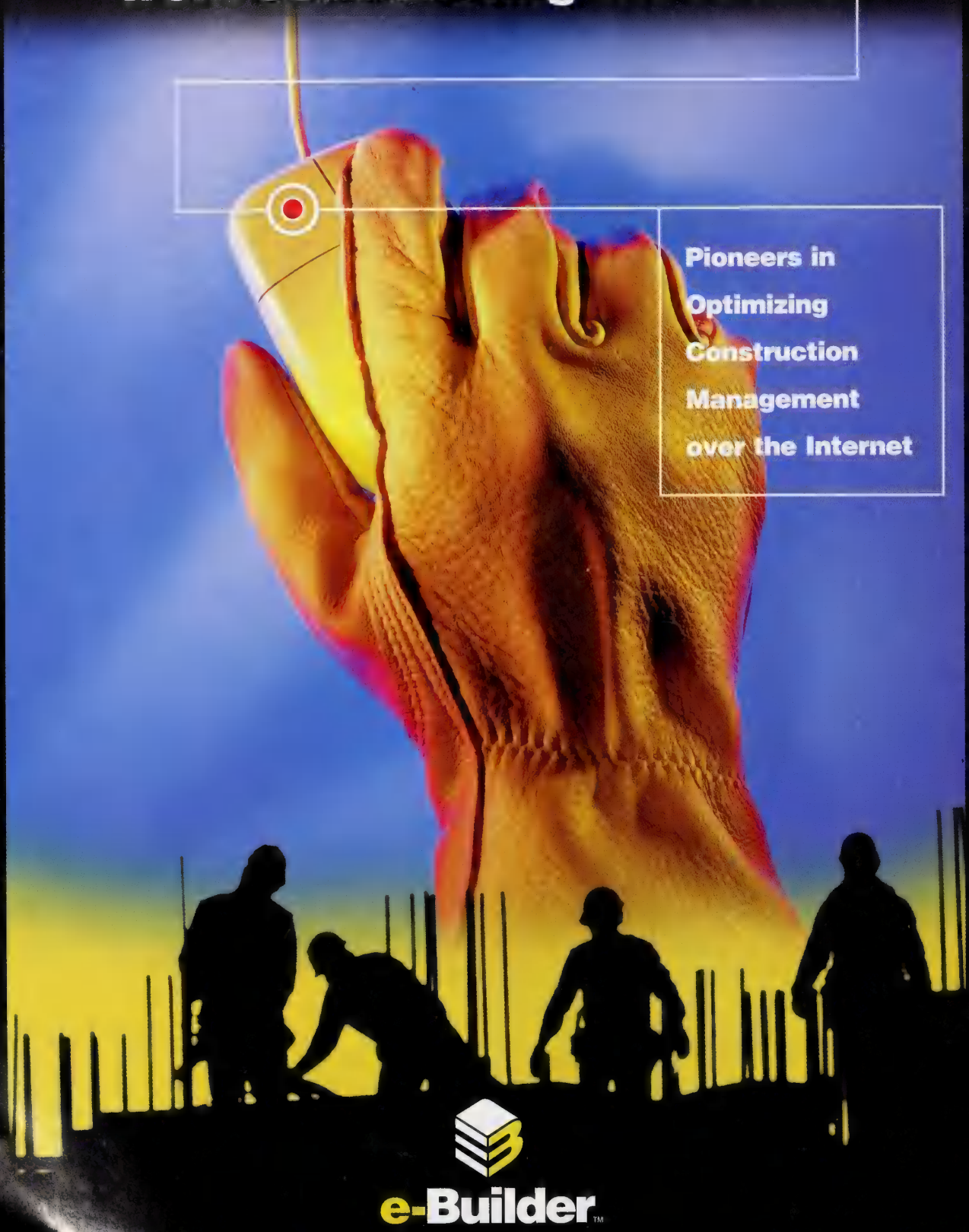
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CIRCLE 59 ON INQUIRY CARD

Digital Briefs

A digital design firm offers high-end visualization services to architects ▪ Interactive communication technology pays off during design

Virtual designers want to change the face of architecture

The worlds of digital and architectural design can make uneasy bedfellows, but one digital design firm founded by architects seeks to bridge the divide. In January, k+d.lab of New York introduced k+d.vis, a division that provides high-end architectural visualizations, including renderings, animated movies, and virtual environments. A second new division, k+d.post, offers post-production services, such as editing and sound design, making the company an end-to-end production house.

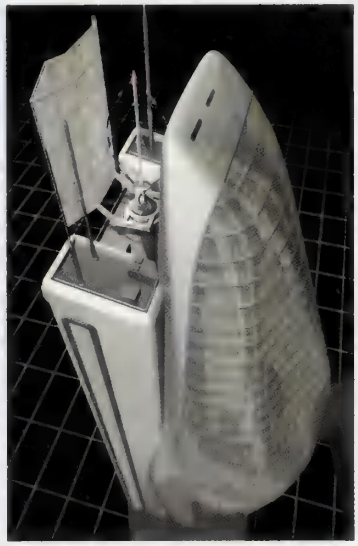
In its two-year history, k+d.lab has undertaken an ambitious mix of projects for both public and private clients. Working with Arquitectonica, they produced a multimedia video showing concepts for interior space, materials, and lighting for CYBERPORT, an information technology park to be built in Hong Kong. They were also hired by the U.S. Department of Energy to design visualizations for proposed energy facilities in California's Mojave Desert and New York's Roosevelt Island and Battery Park City.



The Shafter House, a digital dwelling conceived for a virtual movie set.

High-end visualization has been met so far with cautious enthusiasm tempered by skepticism. The AIA *Firm Survey 2000/2002* indicated that more than one-third of firms use 3-D modeling and rendering software during design, but anecdotal evidence suggests few firms develop full-blown visualizations for their projects. Many firms balk at showing clients a polished-looking design early in the process, says Jerry Laiserin, technology consultant and RECORD columnist, because they fear discouraging client input and don't want to lock themselves into preconceived ideas. And budget constraints often preclude such efforts, which are sometimes perceived as add-on without being value-added.

Joseph Kosinski and Dean Di Simone, founders of k+d.lab, want to dispel these perceptions. "We think visualization will be used more and more in marketing architectural services. Firms will need it to sell clients on their ideas," they say. In their view, architects of the future will give clients virtual-reality project tours to make changes such as resizing skylights and moving walls; this will shorten design development and lead to the exploration of more design concepts and different forms.



A proposed Battery Park City skyscraper, designed by k+d.lab.

Maybe and maybe not. As visualization continues to become more sophisticated and cost-competitive, its merits and drawbacks will remain a topic of debate for years to come. *Deborah Snoonian, P.E.*

Firm combines communication technologies and gets winning results

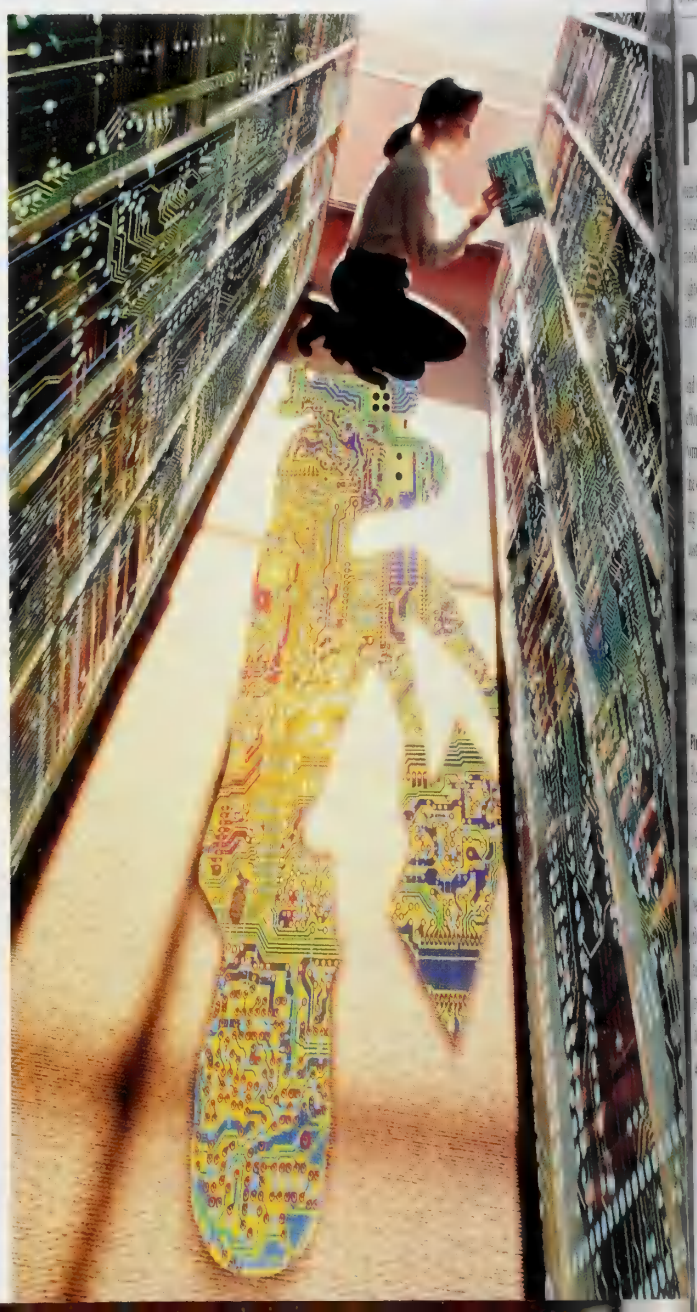
To date, the cost and technical complexity of communication tools such as video-conferencing and online meeting software have kept them out of architects' hands. Only 5 percent of firms have video-conferencing capability, according to AIA's *Firm Survey 2000/2002*, and a similarly low percentage of firms have Internet connections fast enough to conduct meetings online. But decreasing hardware and software prices, along with the potential for cutting project costs by using these tools, may give firms an incentive to invest.

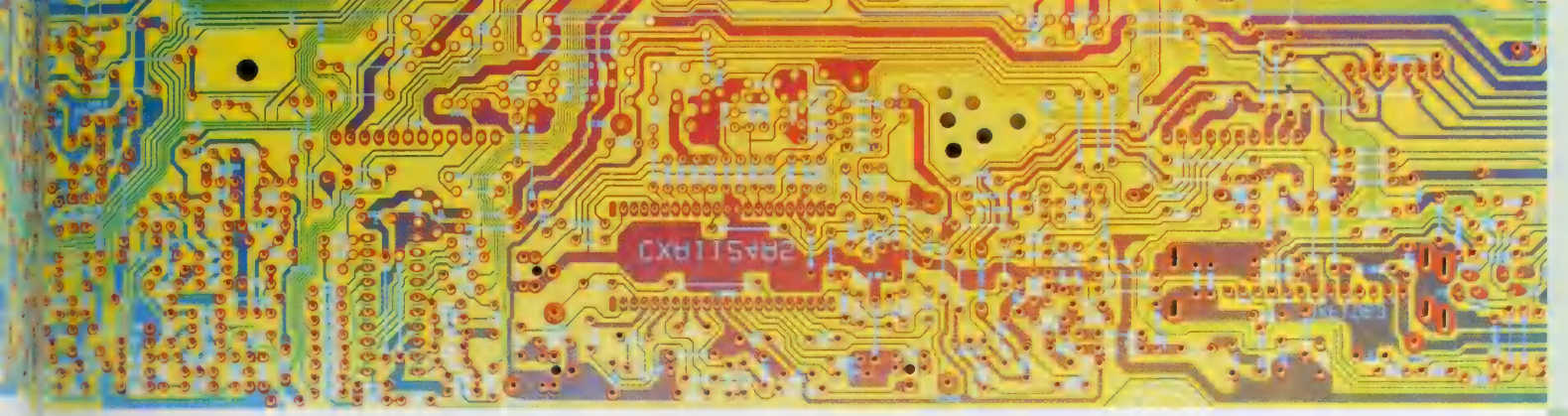
Case in point: Hnedak Bobo Group (HBG) of Memphis won an excellence award from the Professional Services Management Association (PMSA) in December 2000 for its innovative use of interactive communication technology. HBG and client Gaylord Entertainment, located 200 miles away in Nashville, used technology to curb travel costs when designing the $300 million Opryland Hotel and Convention Center in Orlando. Each company invested in a SMART Board (www.steljes.co.uk)—an electronic whiteboard on which design drawings and other documents can be viewed—along with video-conferencing hardware, Microsoft's NetMeeting software, and a DSL Internet connection to increase the data transmission speed between the two offices. Using these tools, the project team held several virtual meetings during which both architect and client marked up design drawings, made notations, and altered project documents in real time—as if the meeting were taking place in person. The team reached consensus on major decisions much more quickly, and the firm saved over $150,000 in travel costs during the four-year project.

Investing in a technology solution required close collaboration: team members were trained to use the tools by technology staff from both companies, and HBG even set up an assistance hotline for the project. Firm leaders believe their investment will net them more work in the future. "HBG can tap into a larger client base now that our designers can interface with clients anywhere in the country," said HBG principal and co-founder Greg Hnedak. Case in point, once more: Gaylord retained HBG again to design a second Opryland Hotel near Dallas. *DS*

How to Manage Your Images (Literally)

Photographs of past projects are marketing tools you should protect like other assets. For some firms, digital image libraries are the solution.





By Deborah Snoonian, P.E.

Pictures may be worth a thousand words, but to architectural firms, which use high-quality color photographs to show off their best work, they're also worth thousands of dollars. Just look at a firm's overhead costs and you'll see a line item for photographers' fees, an expense that ensures each project is documented—literally—in just the right light. Whether printed in marketing brochures, presented in PowerPoint slide shows, or highlighted on Web sites, images of projects can make or break a firm's effort to define its style and win new business.

This begs an important question: How should firms preserve and manage images of past projects so they can be used for marketing efforts? For years, libraries of images—slides, negatives, and large-format transparencies—existed solely in hard copy. Lately, though, the digital library has become *de rigueur*, and for good reason: organizing images electronically can dramatically streamline efforts and trim costs for printing and electronic publishing.

Digital image libraries can be assembled and managed in various ways. No matter how large or small the collection of images, there's no silver-bullet solution that works equally well for all firms. But there are several options to consider, and a few rules to follow.

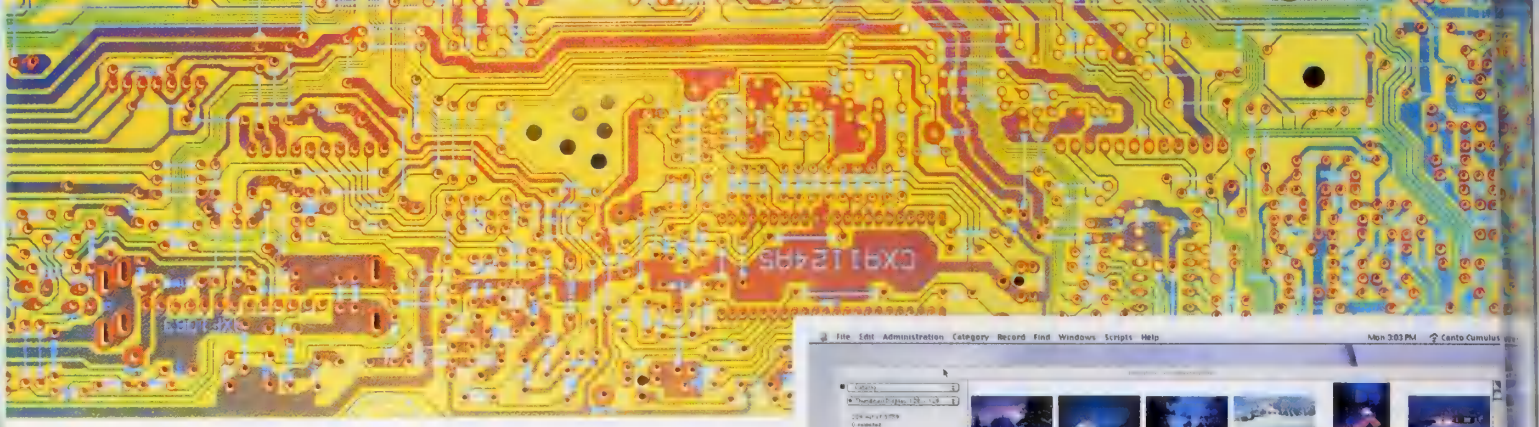
First do your digitizing

Firms that aren't storing images digitally right now probably ought to be. "There are several advantages to maintaining an electronic image library," says Jerry Laiserin, FAIA, a strategic consultant to architects on technology issues (and columnist for RECORD). He notes three main benefits: accessibility (anyone in a firm can search for and use images), flexibility (images can be printed on demand rather than in large quantities), and portability (images can be used for any purpose in both print and electronic media). To assemble a library, firms must invest in high-resolution color scanning of slides, negatives, and transparencies, and they must provide computer storage for the resulting files. "The cost of these tasks has decreased by 90 percent or more in just the last five years," Laiserin notes. "This makes digital image libraries more affordable for midsize and small firms."

Images should be scanned at resolutions and saved in file formats compatible with their end uses. For instance, for four-color offset printing—the standard printing method for brochures and other high-quality print media—images should be scanned at a high resolution (at least 300 dots per inch, or dpi) and, generally speaking, should be saved in TIFF format, which provides enough color and contrast information for files to print clearly. The higher the resolution of the scanned image, the larger the resulting file, so firms wishing to minimize the amount of computer storage needed for their libraries should be careful to do high-resolution scans of only those images they know will be used in high-quality printing. Images to be used in electronic media—on Web sites, for example—can be scanned at lower resolutions (as low as 72 dpi) and are generally saved in JPEG or GIF format, two file types universally recognized by Web browsers such as Microsoft's Internet Explorer and Netscape's Navigator. Lower-resolution files are not as large as their high-resolution counterparts, and as a result, they require less storage space and take less time to load on a Web site.

Where to keep it all

Though an image library can be stored easily and inexpensively on disk media such as CDs or on a stand-alone workstation, sorting through disks becomes unwieldy as a library grows in size, and saving images on a single computer allows only one person at a time to browse the library. To address these problem, firms can store images on a local file server or wide-area network. "We save all our promotional material, including digitized photographs, on a separate portion of our server dedicated to marketing," says Jennifer Greene, an associate with R.M. Kliment & Frances Halsband Architects, a 30-person design firm in New York. Her colleague Melora Heavey adds, "We group images together in folders labeled by project num-





Media asset management software creates thumbnails of digitized images and lets you search the image database using built-in and custom keywords

ber; that way, we're able to find pictures we need from each project for our Web site, brochures, and other marketing materials." A simple system such as this works well for single-office firms that have a person or department responsible for keeping track of image files and other marketing material.

Even when image files are accessible to multiple users and sorted by a category that firm members agree on, large collections can still be cumbersome to navigate. This is especially true when users need to find images from multiple projects whose details they know little about. For instance, if a marketer wants to create a brochure showcasing office buildings over 10,000 square feet in the southwestern U.S., she would first need to determine which projects share those traits and would then have to sort through several files, which might be stored in different folders or drives on a server, to find the appropriate images. This problem is compounded for large firms with projects spread across multiple office locations, where

STORING IMAGES OF PAST PROJECTS IN DIGITAL FORM STREAMLINES MARKETING EFFORTS AND CUTS PRINTING COSTS.

communication is inherently more difficult. AEC firms are not the only companies facing this sort of challenge, and both off-the-shelf software and online image-management services can ease the burden of creating libraries of images that can be searched and retrieved easily.

In-house asset management

Originally developed for industries that manage large portfolios of multimedia files—such as stock photography agencies and production companies—media asset management (MAM) software is catching on among architectural firms that have begun to digitize their libraries. MAM software creates a database and visual index of electronic images by "pointing" to their storage locations—whether on disk media, hard drives, or file servers—and creating thumbnails. Users can search the index using both built-in fields (such as file name, file type, size, and date created) and custom fields containing attributes, or metadata, they enter for each image (e.g., project type, size, geographic location). Files are added to a MAM database via a simple drag-and-drop procedure, and images in the database can be dragged and dropped directly into Web pages, desktop-published brochures, or other documents.

MAM software isn't merely a tool for storing and organizi image files. Most packages allow users to create electronic catalogs or sli shows of related images, which can be saved on CD-ROMs or E-mailed potential clients who can view them on their own time, even if they do have MAM software on their computers. MAM databases are also capab of storing and indexing audio and video files and, increasingly, compoun documents such as Web pages, individual PowerPoint slides, and portab document files (PDFs), which contain text, graphics, and sound.

There are hundreds of companies offering MAM software, b Cumulus by Canto Software, Portfolio by Extensis Products Group, an ImageAXS by ScanSoft are three better-known packages among AE firms. "There's no clear-cut standard-setter among MAM companies, says Lou Casabianca, executive director of the Media Asset Managemen Association, a trade group based in San Francisco—though he concede that the functionality and ease of use offered by Canto's Cumulus ma help it pull away from its competitors.

Firms using MAM software are quick to note its benefits. "W started using Cumulus two years ago and it's really simplified our market ing efforts," says James Brogan, AIA, director of information technology a Hardy Holzman Pfeiffer Associates, a 140-person firm based in New York. "We tag each image using several attributes, such as project type, location, size, and name. We also give images a grade of one to five based on how well they express the intention or details of a project, so we can easily find the best images within our entire portfolio." Because MAM software allows users to customize the search and retrieval parameters, it's not difficult to

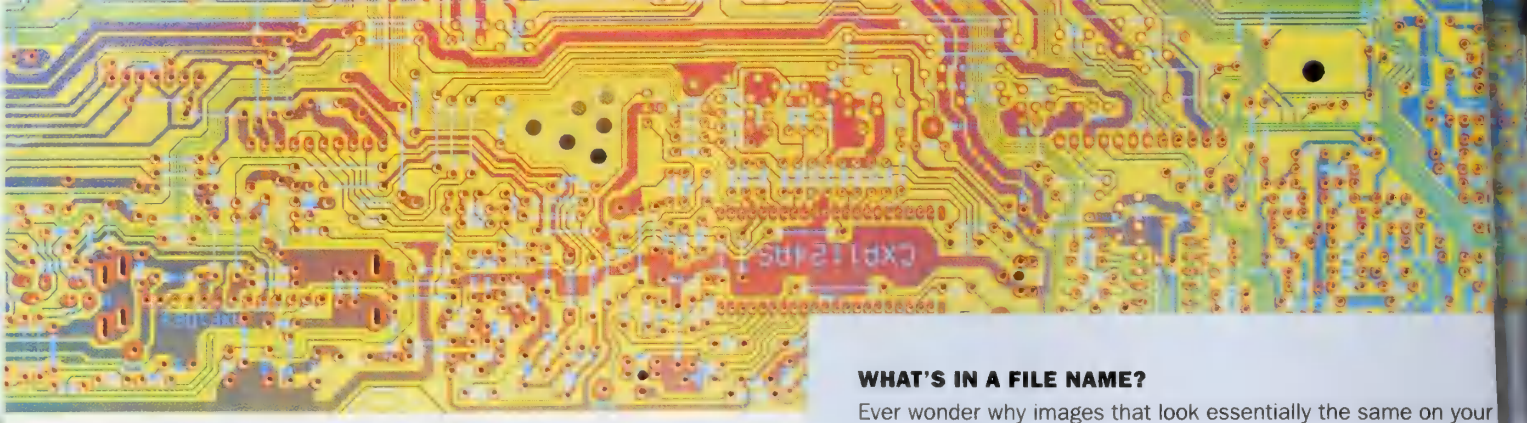
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envision other ways to classify images that make it much easier (read: quicker and cheaper) for marketers to create campaigns targeted to specific clients or types of projects. The level of effort involved in initially assigning custom attributes to each image in the library quickly pays off in time saved retrieving them from your portfolio.

Costs for MAM software start at about $100 for single-workstation packages and can total in the thousands of dollars for systems suitable for use on multiserver wide-area networks. Firms wanting to invest in these systems need to have the resources to host the software, as well as sufficient storage capacity for image files and, when applicable, the Internet bandwidth necessary to share files across multiple locations. Single-workstation MAM packages are fairly straightforward to install and use, but packages for large work groups and multiple locations, like any other software application, take more time, resources, and skill to install and implement. "It was a concerted effort on my part to research the software available and implement the solution," admits Brogan. "I had support from the senior management of the firm, but not all firms will have the time and resources necessary for this sort of undertaking."

Online image management

Maintaining an image library online through an application service provider (ASP) is an option for firms that don't want to invest in MAM software or computer storage for hosting their images in-house. ASPs are companies that provide software solutions and file storage for their clients online, rather than on the clients' own file servers. Extranet service providers are an example of commonly used ASPs among AEC firms.

DIGITIZED IMAGES CAN BE STORED AND ORGANIZED EITHER IN-HOUSE OR ONLINE USING MEDIA MANAGEMENT SOFTWARE.

Most ASPs for MAM, such as Pictopia and .windh, have features similar to those offered by in-house MAM software. The year-old Pictopia, based in California, also offers print-on-demand services for digital images. Connecticut-based Cosential, which offers a suite of applications for management of firm business (see this month's Digital Architect column) provides image management as a module within its marketing management system. "Our MAM system isn't merely a repo itory for images—it repurposes them for various uses," says D Cornish, Cosential's president. "When image files are uploaded, the sy tem creates a thumbnail and automatically generates several image siz and resolutions needed for Web sites, project summary sheets, conta sheets, and proposals." As in other MAM software, images saved Cosential's system can be tagged with project information, such as bo erplate text descriptions, and custom search terms, such as locatio size, and project type. The difference is that this information can b used within other modules in Cosential's marketing management sy tem. Cosential's lightbox feature is analogous to features in MA software that allow users to create slide shows of related images. Bu there is one notable difference: The slide shows can be viewed by visit ing a firm-specific Web site which is automatically E-mailed t prospective clients. When prospective clients visit the Web site Cosential's system automatically notifies the architectural firm by E mail, making it easy for the firm to follow up with further marketin efforts. Other features of Cosential include a Napster-like tool for shar ing memory-intensive images, such as large TIFF files, needed fo four-color offset printing, and a Java-based tool for marking up images

Fees for image and library hosting are typically paid to ASPs on a monthly basis; the cost depends on the size of a firm's digital library as well as its desired features. Monthly fees, which include use of the online MAM software and storage of image files, can start as low as $50 and can go as high as several hundred dollars for large portfolios of images. Firms interested in using an ASP to manage their image libraries need to compare the costs of paying monthly fees indefinitely versus the payback

WHAT'S IN A FILE NAME?

Ever wonder why images that look essentially the same on your computer screen sometimes have different file extensions (such as JPEG and GIF)? Those file extensions indicate the image format in which a file was saved. Many image formats are proprietary, meaning that only software made by a particular company can read or write that format. AutoCAD DWG files are proprietary, for instance, along with images created in desktop publishing software such as CorelDraw and Aldus' Pagemaker. Most image formats were developed before it became common to send digital images via the Internet or use them on Web sites. Many images for printing and electronic publishing purposes are saved in TIFF, GIF, or JPEG format; for the curious, a comprehensive list of image file types can be found online at whatis.techtarget.com/Flat_Files/WhatIs_File_Format_A/.



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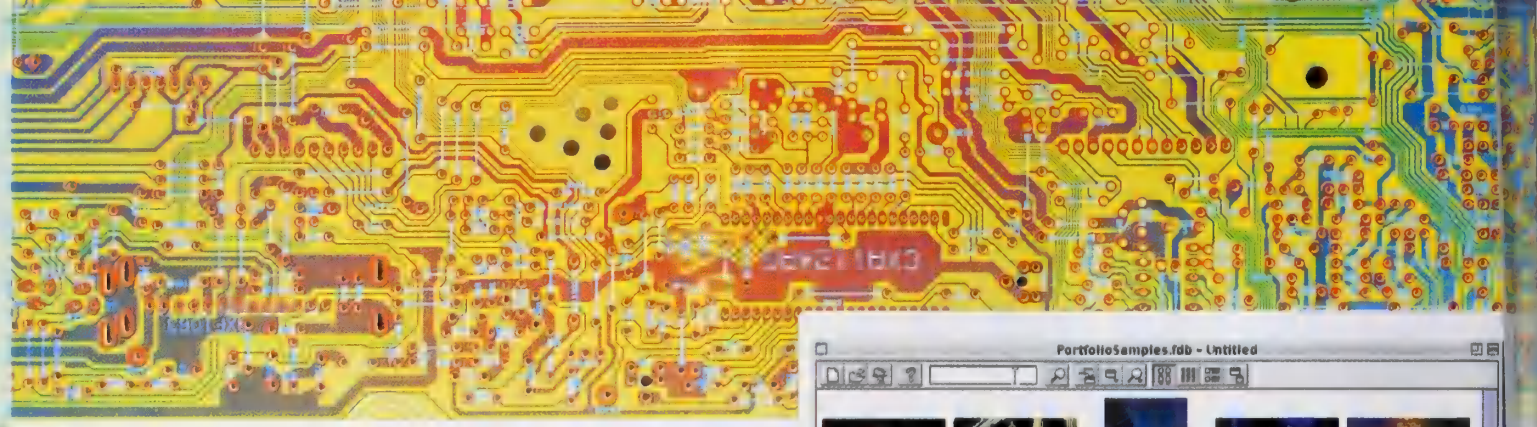
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Images can be dragged and dropped from digital libraries directly into brochures or Web sites.

period for investing in file storage, MAM software, and the hardware infrastructure and level of effort needed to maintain an in-house library.

The universal precautions

Naturally, digitizing your project photographs doesn't mean you should do away entirely with the old media. "Firms should preserve original slides, negatives, and transparencies after they've been scanned," warns Laiserin. "They may need to be rescanned in the future, not only to safeguard against potential data loss, but also because the sharpness and fidelity of scanning and printing technology are constantly improving." To keep the library from growing to an unmanageable size, principals should work with others in their firms to select and scan only those images that best represent a project. Some firms, such as Cooper, Robertson & Partners in New York, scan images for marketing purposes but refrain from scanning reference slides that architects use only for study when they're developing ideas for ongoing projects. "It would be too expensive to scan our entire stock of images. We try to be strategic about what we scan and what we save only in slide format," says Kari Cooper, a principal with the firm.

Although the idea of outsourcing an image library to an ASP is an attractive option for firms that don't want to store and manage images themselves, some firms are uncomfortable with relinquishing ownership of image files. "Frankly, having all my images stored outside the company makes me nervous," says Cooper. "We rely on having those photographs available to us at all times, and it would be devastating to lose them. What would happen if a company that was maintaining my image library had a huge computer failure or went out of business?"

These are not unreasonable concerns. Any ASP unwilling to discuss backup and protection measures in case of equipment malfunction or system failure should be regarded with caution. Cosential has anticipated this concern and allows its clients flexibility in how files are managed. "Sometimes firms feel more comfortable having the server on which their images are hosted physically located in their own offices," says Cornish. "We offer that option, so they don't feel too far removed from their data."

Above all, when you consider creating a digital image library, remember why you're doing it—to simplify marketing and publishing so that your firm's talents are highlighted to the largest possible number of prospective clients. If these efforts net you new business, your investment paid off, because it allows you to spend less time managing your marketing and more time doing what you love—designing new projects. ■

WWW For extensive coverage of digital technology for architects, go to Digital Architects at **www.architecturalrecord.com**

THE DO-IT-YOURSELF DIGITAL LIBRARY

Firms that already host a large number of digital images may find it easier to create their own library systems rather than using off-the-shelf software or ASPs for image management. The Hillier Group (THG), a firm based in Princeton, N.J., began digitizing its stock of images in the mid-1990s, when high-quality scanning technology first became affordable. The firm now stores its scanned images on an in-house database and is in the process of developing a custom library and indexing system for its portfolio. "MAM software simply didn't exist when we started maintaining our image library," says Guy Geier, a principal of THG who practices in New York. "It would be too expensive and time-consuming to move all our images onto one of these new systems." Though custom-built libraries may become a feature at large firms, few midsize and small firms have the in-house resources to develop their own solutions. *D.S.*

Pinehurst Resort & Country Club
Centennial Course No. 8
Owner: Club Corporation of America
Architect: James R. McVicker Jr. AIA

Roofing Contractor: McRae Roofing Inc
Color: Hemlock Green
Profile: Snap-Clad



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Pinehurst Resort & Country Club recently completed its new clubhouse for its Centennial Course No. 8. The clubhouse, designed by architect James R. McVicker, evokes the rich tradition of Pinehurst and its position at the top of a hill makes it visible from all corners of the course. The project features over 9,000 sq. ft. of Snap-Clad panels with a Hemlock Green PAC-CLAD finish. McRae Roofing Company of Asheboro, North Carolina installed the panels.

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Digital Architect

Technology for design collaboration

y Jerry Laiserin, FAIA

/ith the Internet and e-business dal waves receding—at least tem- orarily—sensible folk can now sort rough the flotsam and jetsam to lentify Web-enabled solutions that ctually match real-world problems. or architects, this means decipher- ng the jargon of exchanges, xtranets, portals, and application ervice providers (ASPs). Many nternet tools touted to designers vere in fact driven by the needs of ther players in the AEC industry, uch as engineers and contractors. Vith hindsight, we can spot services ess beneficial to architects and bserve how Web outfits are fine- uning their wares to serve our need or design collaboration. A few ven- lors even tailor their Web offerings o suit the specific shape of design ractice. The following overview of he dot-com landscape is intended s a rough guide for architects truggling to separate the merely ool from the actually useful.

Exchanges

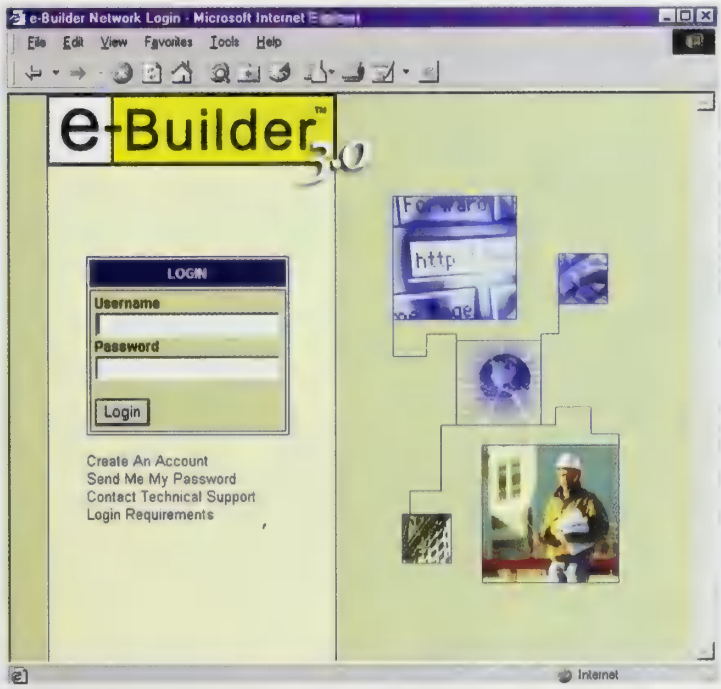
One cool Web business model that nonetheless has little to offer architects is the "exchange" or marketplace. Construction exchanges provide virtual markets for contractors and for buyers and sellers of materials, with the goal of simplifying the bidding and procurement paper trail. This helps construction managers, trade subcontractors, and material suppliers; however, the majority of architects don't participate in procuring materials and don't benefit directly from using exchanges, even if the time or cost of such transactions were reduced to zero.

Extranets

Another Web model promoted to architects is the extranet, also known as a project-specific Web site or project collaboration network ["Digital Architect," SEPTEMBER 1999, page 53]. A typical extranet combines an online document repository used by project team members and a message clearinghouse for items such as requests for information (RFIs). While potentially useful during all project phases, most extranet services focus almost exclusively on construction administration (CA). For contractors and owners, the potential benefits in time savings and risk avoidance are enormous: A new sports stadium set to open at the beginning of the next season, for instance, has precious little wiggle room in the construction schedule. However, because the construction phase accounts for a small portion of architects' fees, the benefit to architects from using such extranets is not obvious. In fact, most construction-phase extranet services that were promoted to architects over the last five years have folded, merged, or shifted markets.

Portals

The huge success of consumer portals—one-stop Web sites for all of a user's online information and transaction needs—such as Yahoo! and AOL—led many start-up companies to apply that model to business services by combining extranet collaboration, exchange services, and industry information under one virtual roof. Citadon, a comprehensive exemplar of the breed, resulted from mergers among a handful of competing extranet and exchange vendors [DECEMBER 2000, page 165]. While Citadon's services are geared toward its customer and investor base of large builders and heavy construction companies, Buzzsaw.com, a spin-off of leading CAD vendor Autodesk, has grabbed the attention of many architects with a free entry-level version of ProjectPoint, its online collaboration service. Firms such as Wimberly Allison Tong & Goo of Newport Beach, Calif., find this tool handy for early-stage "projects that aren't yet really projects," says chief information officer Larry Rocha. Like Citadon, Buzzsaw offers its users many ancillary services, but most architects find that ProjectPoint is all they need.



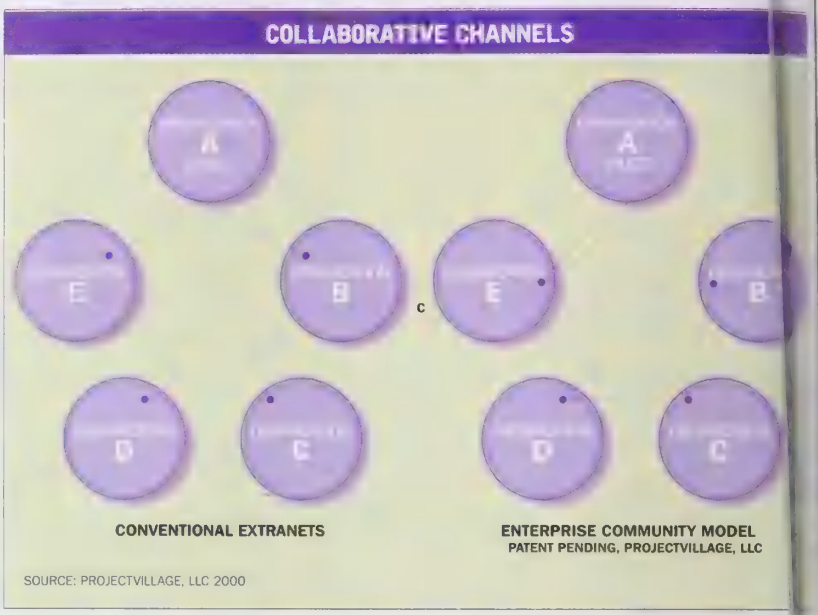
Architects obtain a good value from collaboration networks that charge monthly fees per user, and allow users access to multiple projects.

The way things work

It seems inevitable that projects will be managed increasingly on the Internet because owners and contractors, who stand to profit most from Web-based services, will demand and choose such services—whether through a portal, an extranet, or a project exchange.

Contributing editor Jerry Laiserin, FAIA, provides strategic consulting services to architects and their technology providers.

WWW For more information on technology for architects, including reviews, vendor lists, and links, go to Digital Architect at www.architecturalrecord.com



Because design collaboration depends on sharing documents in progress, "commun" or peer-to-peer systems work better for architects than conventional extranets.

As long as another entity is paying, architects have little to lose by using such services, although some precautions should be taken when sharing project information online ["Digital Architect," NOVEMBER 2000, page 179]. To the extent that firms influence the selection of Web services, or when they seek software or services to facilitate design-phase collaboration, architects can benefit from an understanding of the most worthwhile features of these systems.

Sites like Buzzsaw offer free entry-level collaboration services, but extra-cost features for large jobs and multiple projects can add up quickly to hefty monthly fees. Sites that charge a low monthly fee per project may be a better value for architects who pay for these services during the design phase. Examples include PlanDesk.com and the Extranet by DesignArchitecture. Another pricing alternative that works well for teams of architects and engineers who collaborate often on multiple projects entails a single monthly fee per user, with each user permitted access to the entire portfolio of projects on which the team is working. Constructware (formerly Emerging Solutions AdvantageNet) pioneered this fee structure, which has since been adopted by e-Builder and ProjectVillage.

Architects also need to consider the technology used for sharing documents on collaboration sites. Most extranet services use a "post-and-host" model, in which team members upload files to a central Web host from which others can view, mark up, or download (copy) the files. This system works well for contractors and other entities that don't develop or change design drawings, especially during the CA phase when contract documents are relatively fixed. However, for architects and engineers collaborating during the design phase, this model requires users to constantly save in-progress CAD drawings and associated reference files to the extranet, and to ensure that others viewing or marking up drawings are using the most current versions. Some services such as e-Builder and Citadon mitigate these shortcomings by automating the posting of reference files with each drawing. Even so, many architects remain uncomfortable about the ownership of files hosted online. This issue is specifically addressed by the file arrangements of both ProjectVillage and Constructware, which allow every project participant, or peer, to retain secure control of their own files even after they have been posted to the extranet.

FORWARD-THINKING FIRMS SEE DESIGN COLLABORATION AS AN OPPORTUNITY TO BUILD LASTING RELATIONSHIPS WITH THEIR EXISTING CLIENTS.

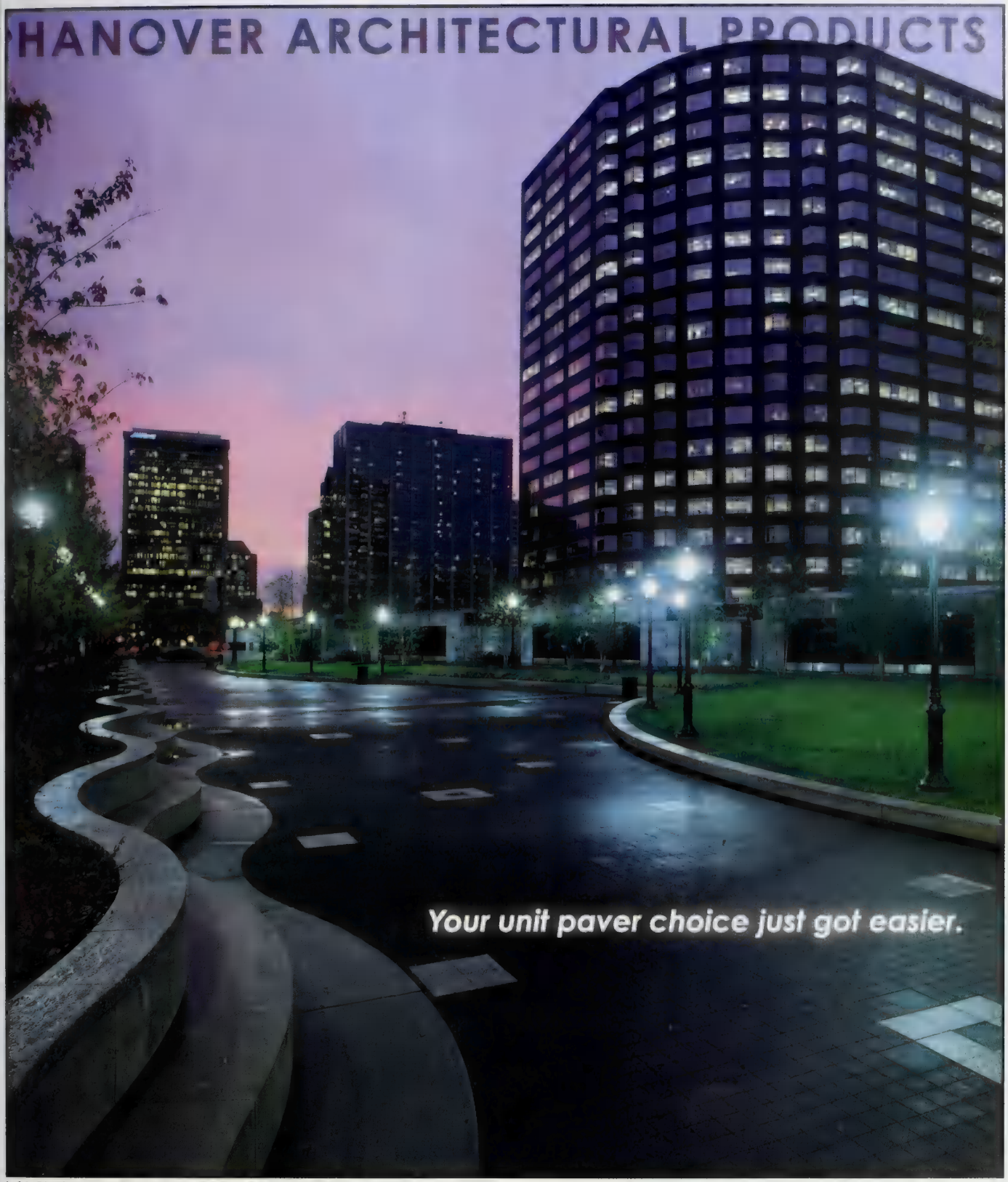
Something to ASP-ire to

On average, 70 percent of new design work for a given firm comes from its existing clients, so the most technologically astute firms are starting to see design collaboration as an integral part of building relationships with those clients. Instead of treating project work and marketing as separate activities—each using its own technology systems and software—some vendors offer solutions that rely on one integrated set of client data. Such companies are known as application service providers, or ASPs. The emerging business model involves outsourcing some or all of a firm's software applications, databases, and other technology needs to an external service, the ASP. These companies typically offer clients sophisticated data searching, retrieval, and output features, which means a firm can analyze and use its own information more quickly, accurately, and cost-effectively than if they were to build such systems internally.

One early entrant into the ASP arena is VisionPlanner.com ["Digital Product Reviews," DECEMBER 2000, page 179], which provides outsourced management of project initiation and closeout. All key project data—client, building type, location, size, cost, and so on—is captured in a database at closeout. These data can then be searched (often called data mining) for various purposes. For instance, when a new proposal arises, the firm can mine its data to find comparable past projects to include in proposals, historical costs to use for fee projections, and even the composition of prior project teams to help select personnel for future projects. By closing the information loop between past and future projects, VisionPlanner helps architects apply lessons learned in order to work smarter.

A more ambitious approach is being developed by Cosential, an ASP that builds on technology started by DesignArchitecture. Initially, DesignArchitecture hosted architects' Web sites, then added a marketing module to allow firms to develop project-specific proposals on the Web. When customers requested extranet hosting service, DesignArchitecture founder Dan Cornish established Cosential as a separate ASP enabling architects to link project work and marketing efforts into comprehensive client relationships. "Anyone who can use a Web browser can create a new project and set up the project team on the Cosential extranet," says James Bauer, technology consultant at Fletcher-Thompson, a 116-person A/E firm with headquarters in Bridgeport, Conn. In the same browser interface, Fletcher-Thompson principals also can create or update proposals for new projects, or even create online "lightbox" presentations with images from prior projects.

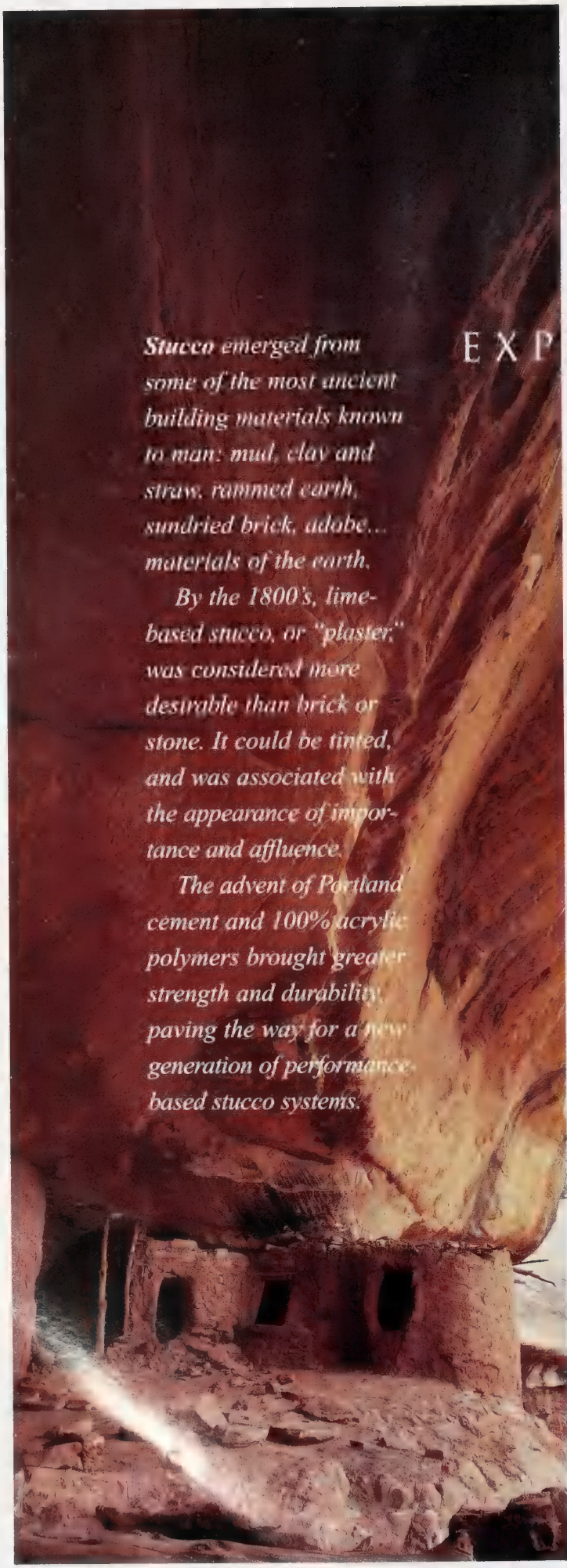
As Cosential and other ASPs yet to come further integrate these services, architects will be able to bring design collaboration full circle, resulting in completed projects that flow automatically and seamlessly into the start-up of new ones. ■



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Ceiling design made easy; 3D CAD grows up

Jerry Laiserin, FAIA

f to see the wizard

SG—Design Wizard

rly in the era of mass production, andardization advocate Henry rd marketed his Model T in "any lor, so long as it was black." In day's age of mass customization, anufacturers use information chnology to vary production ocesses, thereby offering cus- mers myriad choices for colors, apes, and styles. Architects used struggle to enliven once-uniform oducts, such as suspended ceiling stems; now the challenge is to derstand, specify, and visualize mplex configurations of products nong a multitude of mix-and- atch profiles, textures, and ids—even 3-D curves.

To ease the process of design- g with semi-custom components, SG Corporation developed Design izard software, which works as a ug-in to AutoCAD r14, 2000, and 000i and is available free of harge on USG's Web site. Relying n Autodesk's ObjectARX functions, ie Design Wizard allows designers create a wealth of options for eiling layouts. Users can develop, anipulate, and render 3-D object epresentations of any ceiling layout; utomatically generate 2-D eflected ceiling plans; insert the esulting 3-D and 2-D blocks into other AutoCAD drawings or libraries; and even generate and export specifications for ceiling systems from data attributes linked to ceiling objects. The Wizard, which runs as a menu item on the standard AutoCAD toolbar, includes all catalog information on USG's CADRE, COMPÄSSO, CURVATURA, and RENDITIONS product lines. Catalog updates and additional product lines are available by E-mail.

Many companies, especially manufacturers of windows and plumbing fixtures, have attempted to develop CAD-compatible product catalogs, but none has achieved the technical sophistication and ease of use of USG's Design Wizard. Even architects who don't need to specify fancy ceilings should give it a try, just to experience firsthand the future of intelligent building-component design software.

System requirements: Any AutoCAD-capable PC and Windows version, AutoCAD r14 or later, Internet connection, and Web browser.

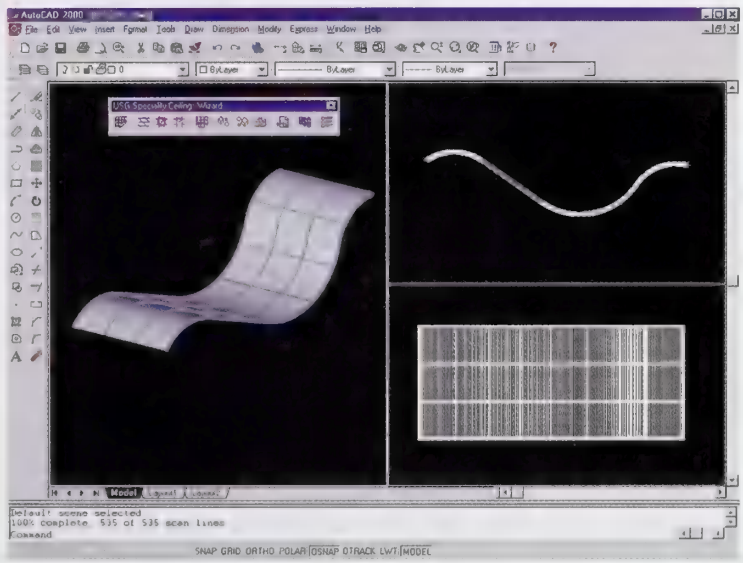
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Third time's the charm

Autodesk—Architectural Desktop release 3

Early architectural CAD programs generated 3-D models from intelligent representations of building components. The problem was, they required huge mainframe computers and cost at least $100,000 (in 1975 dollars). In the mid-1980s, the software was rendered extinct by PC-based drafting programs that sacrificed 3-D and smart objects for desktop convenience and low cost. For example, CAD drafting software represents a door in plan with four lines and an arc, whereas object-oriented CAD software has software bundles, called objects, that "know" a door has thickness, handedness, swing, and so on. The objects also know a door should look different in plan, elevation, and perspective. Today, a third wave of CAD products is emerging, one that uses the power of today's PCs to support intelligent 3-D design in an affordable format. Autodesk has staked a claim on leadership in this realm with Architectural Desktop (ADT), an architecturally intelligent 3-D design package that incorporates familiar AutoCAD drawing functions.

Release 1 of ADT offered little more than rebranding of the technology Autodesk obtained in acquiring third-party add-on developer Softdesk. ADT 2 included many powerful new features but still had glaring deficiencies in areas such as stairs, curtain walls, and multi-story buildings. With release 3, ADT has fixed these shortcomings and added new capabilities, such as multiple linked views that update automatically when project changes are made. Autodesk pioneered the connection of architectural CAD to the Internet, and ADT 3 includes the industry-leading Web functionality of AutoCAD 2000i. Overall, Architectural Desktop 3 is a serious contender for CAD superiority.



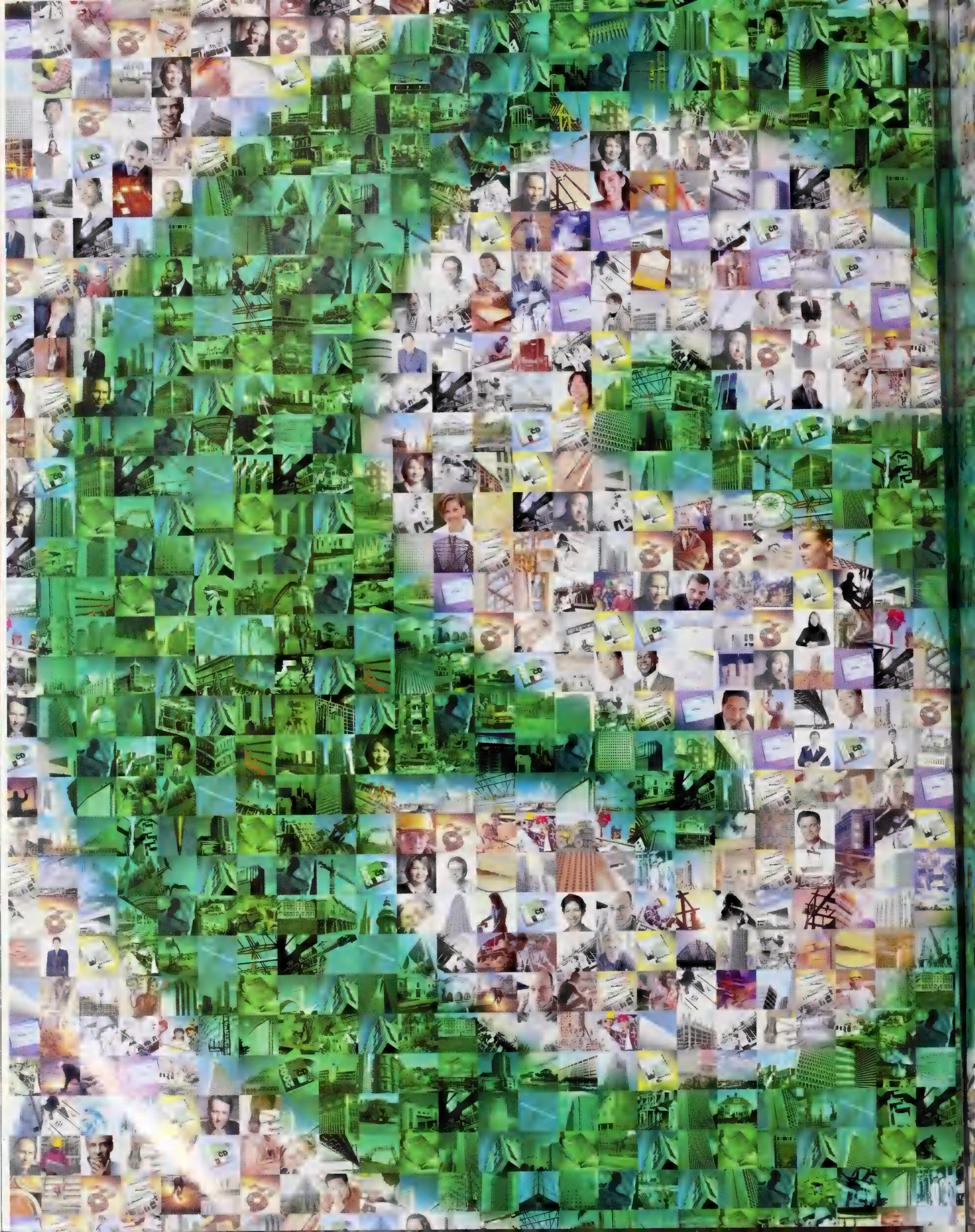
Design Wizard works with AutoCAD to help you specify complex ceilings.

System requirements: Pentium 233 or better, 128MB RAM, Windows 95 or better, 1024x768 video display, 200MB free hard-disk space (64MB swap space), mouse, CD-ROM, Internet connection.

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Contributing editor Jerry Laiserin, FAIA, provides strategic consulting services to architects and their technology providers.

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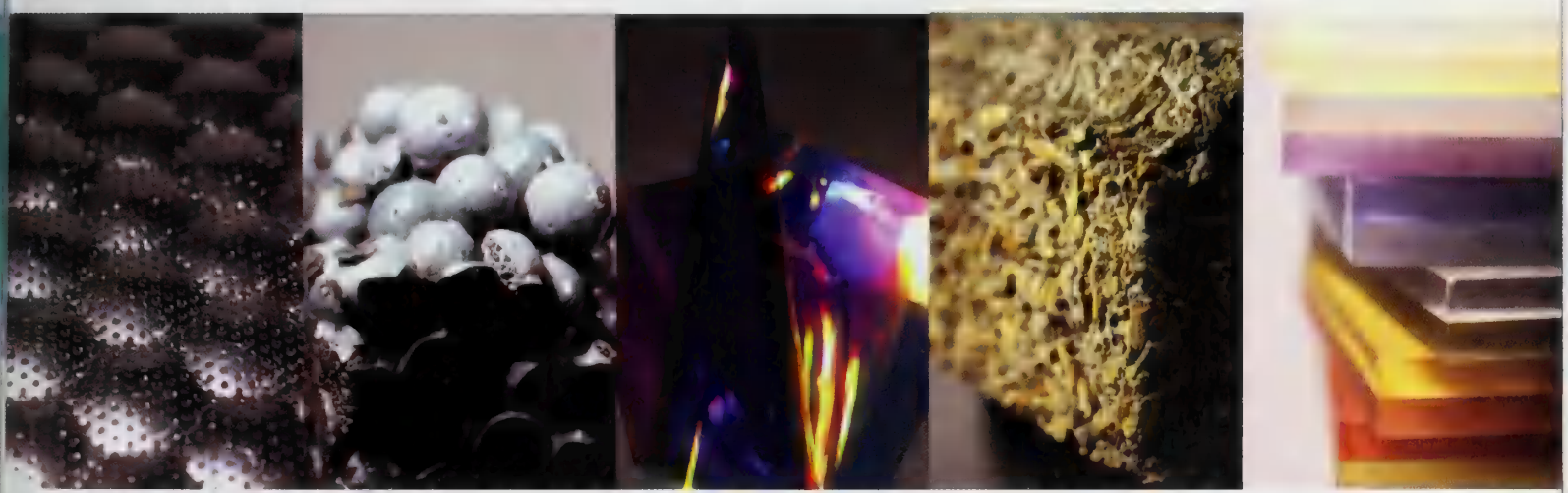
CIRCLE 65 ON INQUIRY CARD

The search for new materials is never over at George Beylerian's resource center

By Rita F. Catinella

Nothing is more exciting than when an architect or designer applies a material in a way it has never been done before. Despite the obvious risks, there are still those willing to explore materials that can push creativity in design to new levels. RECORD recently sat down with George Beylerian, president of the Material Connexion resource center in New York, to discuss the current state of material innovation. Founded in 1997, the center houses over 5,200 materials sorted into eight categories: polymers, glass, ceramics, carbon-based materials, cement-based materials, metals, natural materials, and natural-material derivatives. Every four to six weeks a rotating panel of well-known architects and designers carefully jury new materials to decide if they should be added to the collection. For more info visit www.materialconnexion.com.

Q: *What risks are there for materials pioneers?* This is the area that has much more at risk from the point of view of users, specifiers, and contractors, because everything is tied into regulations, or standards, or longevity, or maintenance, and you become less creative when you have to cross those bridges; the spontaneity of becoming experimental is gone. *Who do you see as the true innovators in the use of materials?* If you look around the world it's easy to spot the people who are experimental and excited by a material, whether it's for architecture, interiors, or clothing. Frank Gehry experiences and attempts, and there is always a heavy price to pay. But he also gets the glory, which is good. The titanium use [for the Guggenheim Museum, Bilbao] was fortuitous and happened to be very timely; on the other hand, it happened because of Frank Gehry's insistence, perseverance, creativity, and energy. Even the titanium association is three years behind in trying to figure out a way to use titanium in a more public way. And you see the risk he took; they claim it's rusting, if that's even possible. The category with Frank Gehry is clearly an aggressive category because he's pushing his limits. I feel a skin on a building is like any work of art: It has to express some sort of aesthetic. At the same time, a major part of it has to be about pragmatism, so you don't have to worry about the stains and the cleaning. It's a formula. Very often in a passive situation, the end result is that price wins over anything else, so that's why we continue to have dull buildings. *What methods are architects using to find new materials and techniques?* I think they develop their own personal aesthetic through their learning years. We call those people material architects. They are a bunch of architects, or interior designers, or even fine artists that are materially very attached, concerned, and interested. But most of them don't have the time and experience to get exposure to much innovation. My feeling is that you've got to have the time. I don't know if the top designers at Gensler or SOM have the time to research, although there are people in their libraries who do. Once in a while they will be exposed to something that spurs them to become innovative and take a new approach. Architects are very creative people, except they've never been given enough toys to play with. *With such small samples available, how do they visualize that into a larger space?* There are two parts, the aesthetic and the technological requirements. The aesthetic, they are pros at. You can take any image and magnify it to any size you want, so it's not very hard to envision a red glass building. Then sometimes with major architectural projects like the Getty or even the Frank Gehry projects, they create large-scale models so you can see real sections. *Green materials have gotten a lot of hype, but how often are they really specified?* I think one huge area of what we are talking about has to do with environmental issues, about lightness, about using fewer materials, about using things that can be disassembled. I was horrified to see this building [he gestures out the window to the construction site at the former



From left to right: DMS-structal honeycomb structured sheet material (Germany); Porocom recycled powder coating, sintered fly ash, clay, and glass granules (Netherlands); 3M Radiant color film (USA); Faswall wallform from recycled wood and cement (USA); Lightblocks coated acrylic/polycarbonate sheets (USA).

New York Coliseum at Columbus Circle] when they broke it down, to see these incredibly beautiful granite slabs being forked up and broken into zillions of pieces. They didn't even go to be reground to be an aggregate of granite or recomposed kind of tile. We obviously have an interest in seeing that materials are used properly and appropriately, and with a clear conscience, not just for effect. It's just easier to keep using the same thing over because there isn't enough time for creativity, not enough time for reassurances or warnings. It's easier to do it and don't give a damn what happens when the material becomes endangered. There are some people who are clearly in charge of the aesthetic, strategic, and environmental conditions, and there are a few such architects who are in the news because of that.

My experience has been that the green situation isn't in an advanced position. There is always a price problem. Price is never going to go away. I don't think the impeccable quality and appropriateness of materials are always weighed equally at all times. My general sense is that people are not really ready to pay more for ecology. And it has to be evaluated on an individual basis. There is no law at the moment, and if an option is given, very often, the option is not exercised.

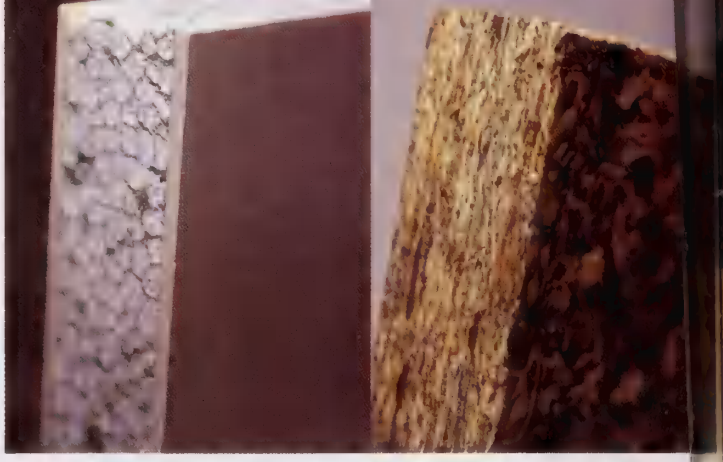
Does material drive design or the other way around? Design comes first, but we feel materials should come first and drive design. If there were enough interesting materials, they would be driving design. I don't want to say that the titanium drove Frank to do the Bilbao, because they had a lot of other choices, but the aesthetics made it possible. Some of these architects are beyond architects—they are really artists.

Do you believe that there has been a resurgence of interest in materials—especially in surface treatments? Definitely. We have one that's coming back from Europe, the use of linoleum, even to cover furniture. It's an incredible opportunity. It's a classic, whether it's the composition, the color, the smell, the nuances. I'm confident that we don't have to reinvent the wheel all the time; we can reinvent a material, make it better, make it more interesting and a lot of that depends on the companies that produce the materials. It has to do with their own sophistication and marketing strategy. And the success of many a material today, especially those that are revivals, has to do more with their marketing strategies than with the materials themselves.

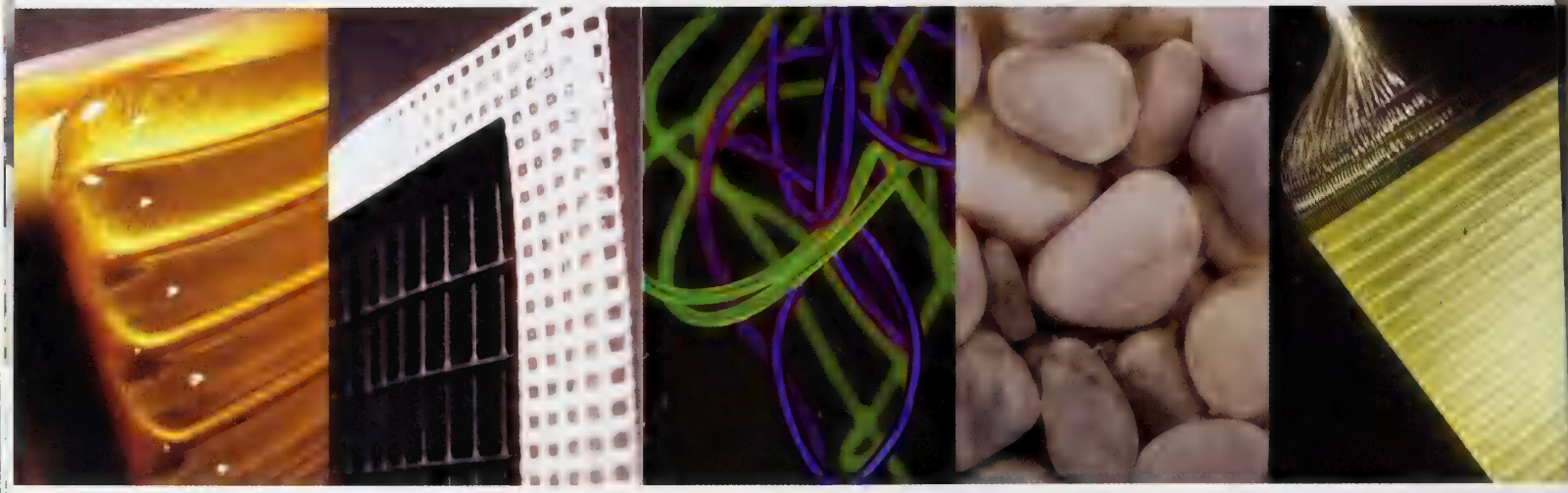
Is it the younger designer who is experimenting more? No, I wouldn't say so. [Laughing] You are insulting me now. In fact, I feel it has nothing to do with age. Some of the most fantastic, creative people continue to be creative at whatever age. It's within the person. Sometimes they are creative and limited by unfortunate restrictions of who they work for. Sometimes they are victims of circumstance. Sometimes they have a job on the side, so they are restricted in their business, but on the weekend they are helping Jane and Dick design their house and they become very aggressive.

What has been a favorite product of the Material Connexion jury? We had a Best of Show a couple of months ago, which took old paint that has dried up on your garage shelves and recycles it into fresh paint and that's wonderful. Whether you pay more for it or less for it isn't really the concern right now. It's the concept of thoughtfulness and innovation. And sometimes, I have to admit it, the jury is impressed by the professional way a material is presented. If you are showing me a tile like this [holds up a tile made of recycled glass], details such as the way it is labeled make an impact, and say a lot about the company—if they can handle that properly, they can handle other things properly. ■

"WE HAVE AN INTEREST IN SEEING THAT MATERIALS ARE USED PROPERLY AND APPROPRIATELY AND WITH A CLEAR CONSCIENCE, NOT JUST FOR EFFECT."



Airex foam, left (Switzerland); Biofiber wheat and soy composite, right (US).



(From left to right) TechnoGel polyurethane gel (Italy); Iowa photovoltaic thin film modules (USA); FlexWire electroluminescent wire (USA); Riverstone agglomerate of marble pebbles and a proprietary transparent or pigmented polymer (Italy); Lumitex fiber-optic woven panels (USA).

cast glass









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CIRCLE 67 ON INQUIRY CARD

New Products

Glass and glazing advances are helping architects create ceilings that have cleaner looks with less obvious structure holding the glass (see the story below and the British Museum technology story on page 149). In addition, textured glass is available in an increasing number of patterns that diffuse light and provide well-lit privacy. *Rita F. Catinella*

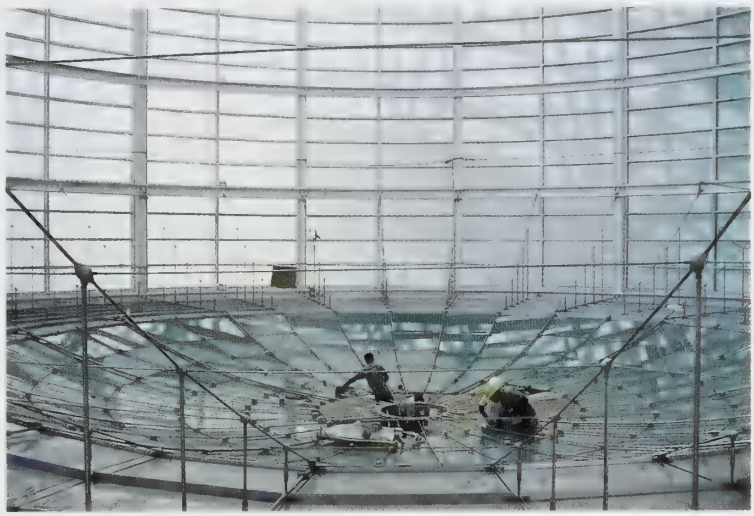
A special interlayer helps create a more secure, open ceiling for Meier's courthouse

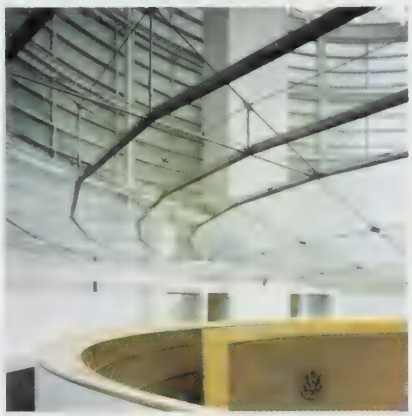
The glass ceiling in the Special Proceedings Courtroom of the Sandra Day O'Connor U.S. Courthouse in Phoenix (featured on page 92) was designed by James Carpenter Design Associates of New York City. The firm was brought on by Richard Meier's office to integrate artwork into the ceiling—Meier's original design had sprinklers, lights, and a loudspeaker system that made it heavy and solid-looking.

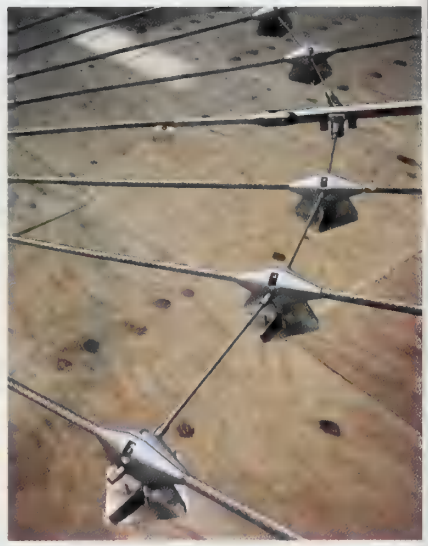
"They were keen on people being able to see the sky, so our task was to make the ceiling as light as possible," says Luke Lowings, an architect with James Carpenter.

To achieve a lighter feeling, a central "lens" area of the ceiling acts as a diffuser for artificial lighting that was moved to the top of the drum of the room, while the clear perimeter provides views of the sky from the courtroom floor. The central area of the lens features a rolled pattern on the underside of the surface that distributes the light to areas below. Intended to suggest a bubble resting on the flat surface of water, the glass structure is suspended from the top of the drum by cables. To integrate the sprinklers fully, the firm worked with TriPyramid Structures of Westford, Mass., and Aero Automatic Sprinkler of Phoenix, so one-inch-diameter sprinkler pipe could be used in some cases as support instead of cables. In addition to invisible sprinklers, the firm integrated the speakers into the walls of the room.

To prevent any of the 400 pieces of glass (fabricated by Dlubak Corp.) from falling out, a series of standard tests was performed. As an added safety feature, Lowings and his team used a hurricane glazing product from Petro Plastics with a particularly heavy interlayer that was extended beyond the edges of the connecting pieces of glass. The designers then bolted through the interlayer, so there is a discreet mechanical connection if the glass is ever broken. 800/831-3061. Dlubak Corp., Blairsville, Pa. CIRCLE 200
800/486-4738. Petro Plastics, Garwood, N.J. CIRCLE 201







View from above the lens ceiling during construction (above). A visitor's view of the ceiling (below). Sprinkler pipe and cables were invisibly integrated (right).

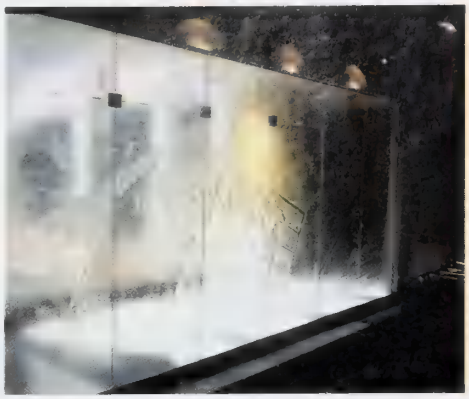
French use a thermoformed secondary glazing to protect historic stained glass

A protection system for stained-glass windows is not simple to devise because it must serve multiple purposes. The windows need protection from vandalism, pollution, mechanical shocks, and ultraviolet light, just to name a few dangers. Double glazing, positioned a few centimeters away from the window, can protect the glass from all of these elements. However, first-generation protective glazing (simple glass or clear leaded glass), placed parallel to the exterior of the stained-glass windows, raises appearance problems and produces reflections that do not appeal to architects responsible for historic monuments. As a result, the Research Laboratory for Historic Monuments at Champs-sur-Marne in France decided to find a new type of protective glazing. French craftsman Hervé Debuitus' thermoformed protective glazing (shown) reproduces the external appearance of the original stained-glass window through its relief and coloration, and it eliminates the problem of reflections caused by double glazing. 312/222-1237. French Technology Press Office Inc., Chicago. CIRCLE 202





New Products



▲ Textured insulation
By heating glass beyond 1400 degrees Fahrenheit, glass artists are able to use the force of gravity to slump the glass into molds of their creation. Applications include shower doors, table and bar tops, entryways, partition walls, full walls, and sculptures. Textured glass can also be used in insulating glass, since glass thickness can be as thin as ⅛ inch and still be tempered. Textured glass is available in a variety of colors and can be sandblasted after texturing for enhanced effect. The kiln-formed glass wall here is one of the fabrications from Solar Seal. 508/238-0112. Solar Seal Co., South Easton, Mass. **CIRCLE 203**

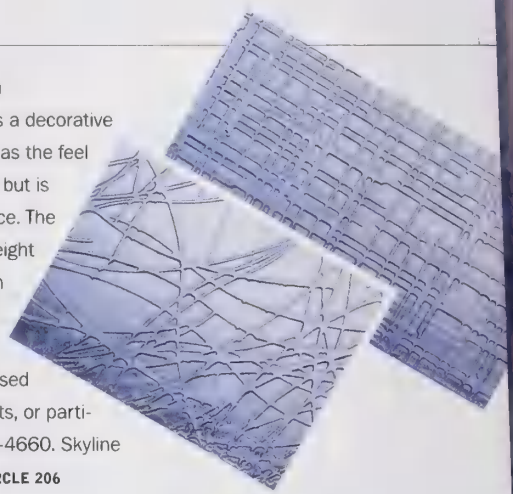


◄ Wine glass
Designed by Gordon Huether+Partners, the J… Tasting room installation … comprised of offset shee… of custom-patinated steel, stacked glass-on-edge, c… talline rock cullet, and sparkling fiber-optic lighti… The glass artist's firm also… designed the bar in conju… tion with the backdrop for… client, a Healdsburg, Calif. vineyard. 707/255-5954. Gordon Huether+Partners… Napa, Calif. **CIRCLE 204**

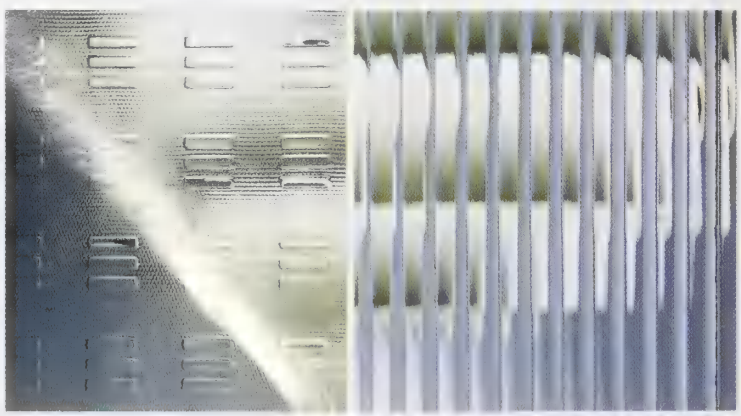
► From art to logos
Meltdown Glass Art & Design has launched a new line of standard, designer, and premium textured glass patterns. In addition to these textures, Meltdown also offers custom-designed textures, hand-molded for each client. Applications include art screens, room dividers, window inserts, side panel windows, and furniture. Corporate logos and custom designs can also be embossed in glass. 800/845-6221. Meltdown Glass Art & Design LLC, Chandler, Ariz. **CIRCLE 205**



► Close to kiln
ARCHIglas/texture is a decorative textural glass that has the feel of kiln-formed glass but is less costly to produce. The collection includes eight standard patterns in tempered, laminated, or plate glass that may be used in doorlites, sidelights, or partition walls. 888/278-4660. Skyline Design, Chicago. **CIRCLE 206**



▼ Worthy of a king
Royal Glass is a precision-rolled glass available in four patterns. Available exclusively through Bendheim, Royal Glass can be tempered, laminated, mirrored, or bent and is suitable for insulated units. Applications include floor-to-ceiling partitions, ceilings, shelving, building facades, shower doors, or furniture. Trio (below, left) features lozenge shapes set in crisp relief against a finely scribed background, while Pyramid's chiseled pattern (below, right) prismatically bends light in its deep V-cut surfaces. 212/226-6370. Bendheim, New York City. **CIRCLE 207**





▲ Worth the wait
The insulating glass units for the Amtrak Auto Train facility in Lorton, Va., are made of PPG's Azurlite aquamarine glass and Solarban 60 low-emissivity solar control glass. According to construction administration manager James Akkawi of the architectural firm Jacobs Facilities, the units met the design and performance criteria by providing not only a clear view outside, but high amounts of natural light to the interior of the station, and solar-heat-gain control during hot summer and cold winter months. 412/434-3131. PPG Industries, Pittsburgh. **CIRCLE 208**





INSPIRED DESIGNS NOW ARRIVING AT GATE A

Contemporary yet historical. Beautiful yet secure. And it had to give more than three million parking patrons a well-marked path to their flight. From the beginning, the new garage at National Airport was a study in contrasts.

The finished project is a shining example of steel and glass block. Pittsburgh Corning Glass Block. "We started with the vertical elements of the garages — the elevator towers — and using the VUE® pattern, turned it into a virtual wayfinder system. Then, we continued that theme with small wayfinder devices — information pylons using ESSEX® AA — throughout the interior of the garages."
– Graham Davidson, architect

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Terminal A parking garage at National Airport in Washington, D.C.
Architect of record: HNTB Corporation
Design architects: Hartman-Cox Architects
Graham Davidson, FAIA



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PITTSBURGH CORNING GLASS BLOCK

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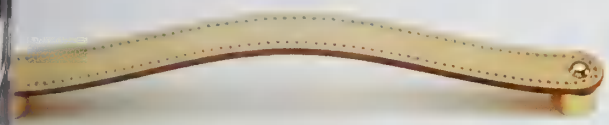
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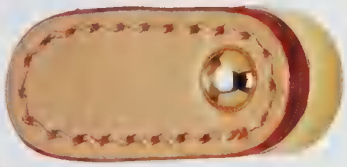
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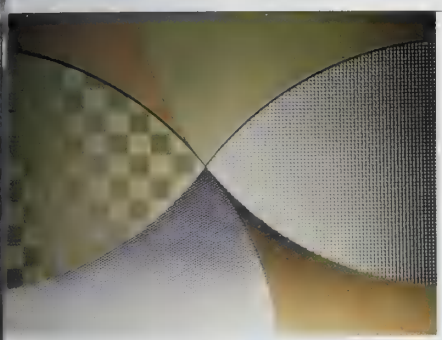
Product Briefs





A better grip

v cabinet hardware from architect and nus Academy founder Andrea Branzi aposes polished brass hardware and gantly stitched natural leather. Three styles available: an oval cabinet knob and a long, slender handle with or without leather. hardware comes in optional satin nickel or satin nickel and clear finishes. Valli & also offers the Forges line of round cabinet hardware, which combines a woven or ched leather grip with a brass base. 877/326-2565. Valli & Valli Inc., New York City. CLE 209



More than skin deep

evamar introduces Metallage, a new e of 26 metal laminates featuring ven patterns, such as Disc (a freehand irl), the meshlike Rhythm, and the geometric configurations of Screens and Puzzle. Each pattern is available in one or more of four base colorways, and in a selection of surface finishes including mirror, satin, matte, and brushed. A special technique creates embossed reliefs with different surface textures. Items are offered in 4-by-10-foot panels in a nominal thickness of .039 inches. 800/638-4380. International Paper, Decorative Products Division, Odenton, Md. CIRCLE 211



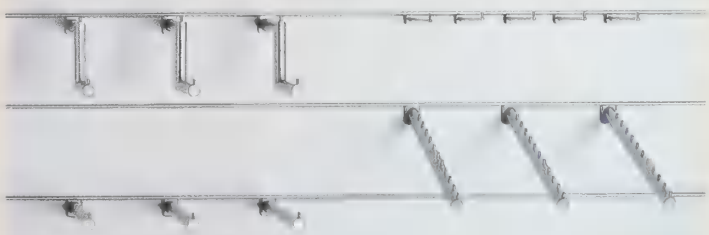
Bi-coastal buffet

esigned by one brother on the West oast and handcrafted by another in the East, the ntoine Proulx collection of tables and case goods is truly n American statement. The dresser/buffet shown here features oak-stained wenge ith mottled brown steel legs. This piece is one of a dozen new tables, dressers, and eds available in a choice of 12 different wood species, including flat-cut mahogany, ebra wood, figured mahogany, and figured anigre. 800/457-0756. Antoine Proulx, an Francisco. CIRCLE 212

Product of the Month
Visplay Mono/Stripes



Marlite has signed a contract with Visplay, a Vitrashop company, to be the exclusive North American distributor for the company's merchandising system components. The two systems that will kick off the collection are Mono and Stripes. The Mono "puck system" (right) realizes a clean look through round or rectangular sockets in a variety of sizes. The sockets can be mounted at any height in wood, ¾-inch MDF, or glass panels. Stripes (below) uses slender stripes or lines to create a horizontal look. The system is available in round and square profiles and can be surface-mounted on or recessed in wooden panels, and surface-mounted on glass. 330/343-6621. Marlite, Dover, Ohio. CIRCLE 210



▼ Complex curved solution

Curatex is a new technology for developing complex surfaces in architecture, interiors, and design. Developed in collaboration with b consultants and dlm architectural designers, Curvatex emerged from the need to create complicated, curved surfaces for an exhibition display. "Currently, costs are reasonable and we can offer the product for use today," says Tom Barker, director of b consultants. "But we are also exploring ways of partnering with industry to create bigger cost savings and offer the system for huge projects, such as airport canopies." The method can create large-scale, complex, weatherproof, stable curved surfaces without the need for formwork or framing structures. Curvatex can also be used to make the formwork itself for cast concrete. 44/020/7689.5660. b consultants, London. CIRCLE 213



Product Briefs



◂ Don't call it a comeback

Walker Zanger introduces a revival of the Newport Collection, which was originally introduced in 1995. The revived line features seven new colors, two new architectural moldings, and several new decorative accents, including playful geometrics and whimsical seaside-inspired motifs. The seven new colors, including cherry bomb (red), popsicle (bold purple), milkweed (retro green), driftwood (sandy tan), magnolia (stark, glossy white), and black, add further dimension to Newport's updated style. 800/540-0235. Walker & Zanger Ltd., Sylmar, Calif. **CIRCLE 214**



▴ Pass the envelope

Michael Everts, AIA, and Heather Wasilowski, of Valerio Dewalt Train Associates, won a Solutia DOC Award for the use of Durkan Commercial's Edgewater and Petit Point carpet styles in the corporate headquarters of OurHouse.com in Evanston, Ill. The DOC competition honors achievement in projects using carpet made with Solutia Ultron VIP nylon fiber. 314/674-1000. Solutia Inc., St. Louis.

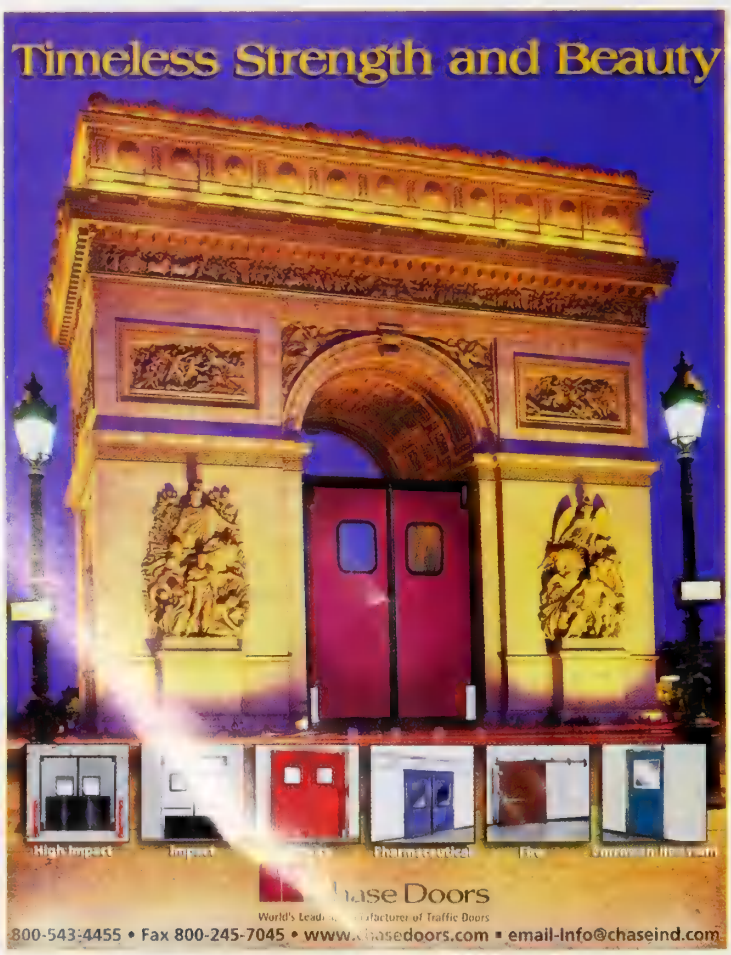
CIRCLE 215

▾ Light treatment

Phifer introduces several new win… treatment fabrics, including the SheerWeave Style 2390, 2360, a… 3000 fabric lines. Woven of fine P… coated fiberglass yarn, SheerWea… allows only soft, diffused light to e… through the window. A new lightwe… fabric produces a small diameter r… a neat retracted shade. 800/633-… Phifer Wire Products Inc., Tuscaloo… Ala. **CIRCLE 216**



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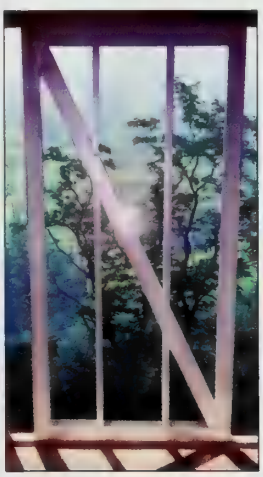
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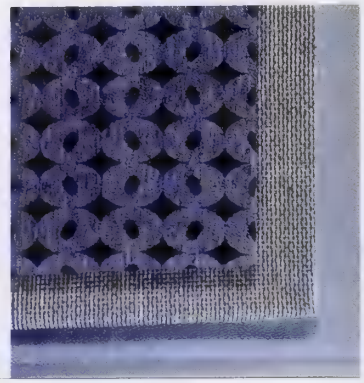
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Product Briefs

► Custom inspiration

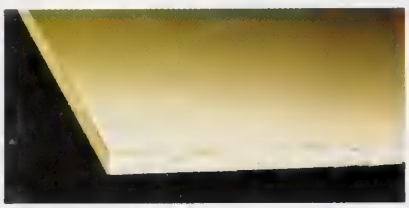


The Rockwell Group collection of fabrics emerged from several custom projects that DesignTex completed for the Rockwell Group. The fabrics are inspired by everything from a 20th-century wrought-iron grille (Flip Flop), Rockwell's own son (Sammy Baby), and the quality of light filtered through the canopies of trees (Jump n' Jive). 212/886-8136. DesignTex, New York City. **CIRCLE 217**

► Rock star turned design maven



Diana Holmlund left her native Sweden 11 years ago and arrived in the U.S. as the lead singer of a Swedish rock band. Eventually, her lifelong interest in design resurfaced, and by 1997 she formed Lampa, a showroom of Scandinavian design. With its recent expansion as Lampa + Möbler, the showroom will supply furniture and accessories as well. Shown here is a sofa bed by designer James Irvine, which is manufactured by Klara CBI. 323/852-1542. Lampa + Möbler, Los Angeles. **CIRCLE 218**



▲ Smooth operator

LP developed the Super Smooth S Technology process to manufacture a special engineered wood substrate with an extraordinarily smooth surface. To create the surface, sustainable trees are processed into consistently sized wood panels that are treated with a strengthening high-grade exterior binder and a special smoothing top layer. 800/462-1238. Louisiana-Pacific Corporation, Huntersville, N.C. **CIRCLE 219**



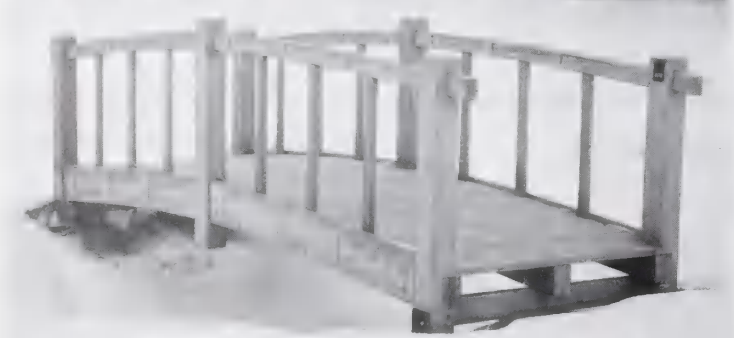
◄ Bleach-resistant pattern

Chloraguard is an advance-generation dye treatment that protects patterned carpet in installations such as senior living facilities, where bleach-based cleaning agents are used. Treated carpets reportedly exhibit no evidence of color change when solutions of household bleach no greater than 10 percent are used. 212/752-2520. Durkan Patterned Carpet Inc., New York City. **CIRCLE 220**

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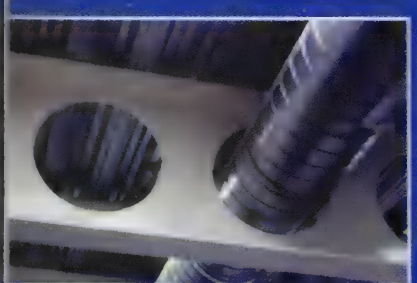
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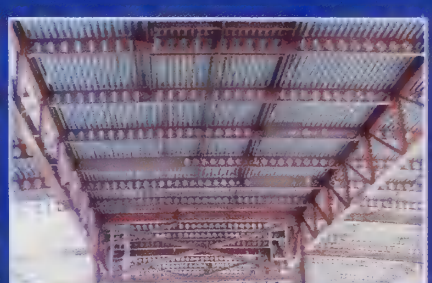
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Product Briefs

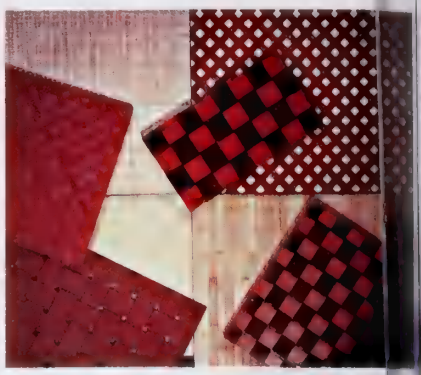


▲ Somewhere to crash

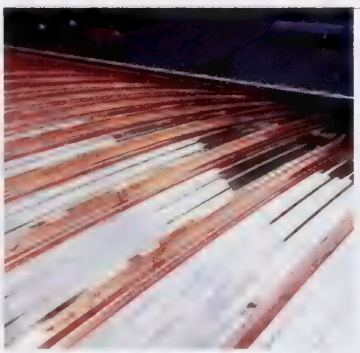
The furniture designed by Le Corbusier is one segment of the Cassina I Maestri collection, which includes pieces by Mackintosh, Asplund, and Wright. Designed in 1974, the LC5 is considered one of the classic pieces from Le Corbusier's collection. The back cushions of this piece can be rotated onto the rear framework to increase the width of the sofa seat and create a single bed. This model was built for Le Corbusier's studio in Paris so that he could work late into the night and have a place to sleep without leaving his studio.

800/770-3568. Cassina, New York City. **CIRCLE 221**

► French tailored wood veneer



A line of woven and carved wooden panels has been introduced by Marotte, a French company specializing in high-quality veneered panels. Architects and designers can choose from more than 120 different types of wood and can create customized designs. The woven panels are created by interweaving strips of wood veneer (either common species or exotic), and the carved panels are three-dimensional woodcarvings crafted to achieve any numbe of effects. 312/222-1235. French Technology Press Office Inc., Chicago. **CIRCLE 22**



◄ Copper top

When David Lynch & Associates wan to make a curved copper roof a reali for Fulton Bank in Lancaster, Pa., the specified the Garland R-Mer Span curved, structural standing-seam sys m. Incorporating a single copper panel design also helped reduce the possib y of leaks. 800/762-8225. The Garlanc Company, Inc., Cleveland. **CIRCLE 223**

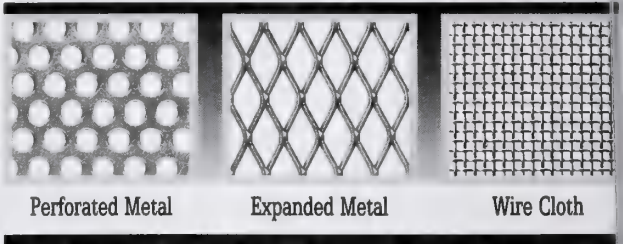
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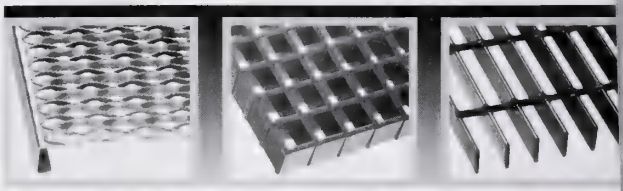
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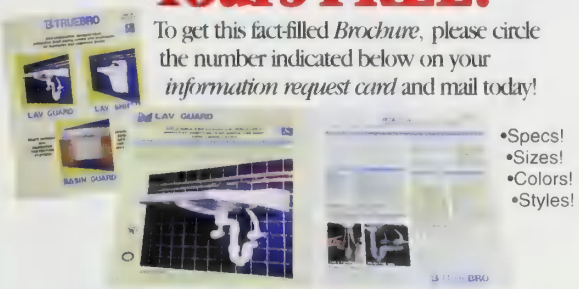
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Product Literature

Ceiling product gallery

The *2001 Product Gallery* catalog from Chicago Metallic features ceiling suspension systems, metal ceilings, and specialty products including perimeter suspension trim, drywall grid, and Eurostone ceiling panels. 800/323-7164. Chicago Metallic, Chicago. CIRCLE 224

Healthcare casework

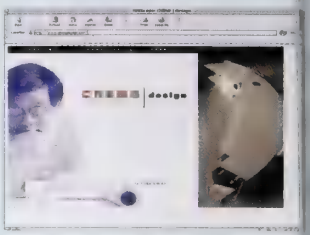
The Casework Symbol Library is a new software tool for integrating casework into healthcare environment design. The Casework Symbol Library works in conjunction with AutoCAD software releases 14 through 2000i by enabling users to "drag and drop" Midmark's assortment of casework offerings from pull-down menus into computer-aided drawings. 800/MIDMARK. Midmark Corporation, Versailles, Ohio. CIRCLE 225

Door study course

The Door and Hardware Institute has developed a CD-ROM-delivered self-study course that provides a complete, interactive introduction to architectural doors, frames, and hardware, and industry codes and standards. 703/222-2010. Door and Hardware Institute, Chantilly, Va. CIRCLE 226

NEW SITES FOR CYBERSURFIN

Kitchen hoods, concrete counters
www.chengdesign.com



Trade only design library **www.todl.co**

Online launch of Laurinda Spear wall-covering collection
www.wolf-gordon.com

New site for cable-based fixtures
www.arakawagrip.com

Online industrial lighting guide
www.lithonia.com/Industrialighting

Colorful CD

The new CD-ROM from Duron Paints & Wallcoverings illustrates the company's 2001 color palettes. 301/937-4600. Duron Paints & Wallcoverings, Beltsvil Md. CIRCLE 227

Spray foam brochure

BASF has published a new roofing brochure that provides industry specifi with an overview of spray polyurethane foam technology. 734/324-6292. BAS Corporation, Wyandotte, Mich. CIRCLE









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Product Literature

...ougher fountains

...e *School Access* brochure from Haws ...fers a line of vandal-resistant drinking ...untains created for schools. ...5/359-4712. Haws Corporation, ...parks, Nev. **CIRCLE 229**

...andscape furnishings

...e new catalog from McKinnon and ...arris features the company's original ...signs of garden furniture in wrought ...uminum. 804/358-2385. McKinnon ...d Harris Inc., Richmond. **CIRCLE 230**

...ealing systems

...ew product lines featured in Zero's new ...talog for the coming year include ...pandable thermal break door saddles ...th either oak or aluminum inserts, and ...gh-performance continuous hinges. ...00/635-5335. Zero International Inc., ...onx, N.Y. **CIRCLE 231**

...xpanded ballast catalog

...revised ballast catalog is available in ...int or on CD-ROM. The product lines ...cluded in the *Ballast Navigator* catalog ...e electromagnetic, electronic, dimming, ...mpact fluorescent, high-intensity dis- ...harge, and sign. 800/BALLAST. ...agnetek, Nashville. **CIRCLE 232**

Emergency lighting PDF

Highlites, a manufacturer of high-performance emergency lighting equipment, offers a new interactive PDF full-version catalog CD-ROM. 203/575-2044. Highlites Inc., Waterbury, Conn. **CIRCLE 233**

Efficiency education

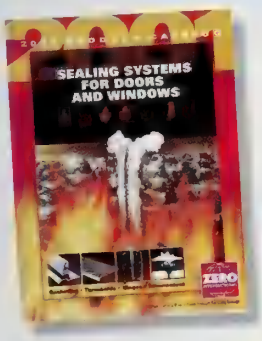
Getting Smart about Low-E Glass is a new CD from AFG Industries intended to help architects educate consumers about the benefits of energy-efficient glass. 800/251-0441. AFG Industries, Kingsport, Tenn. **CIRCLE 234**

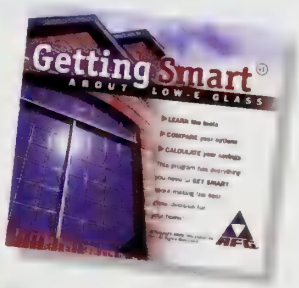
Temporary bracing

A new brochure from the Wood Truss Council of America, *Brace the Temporary Bracing for Safety,* describes how to temporarily brace metal-plate-connected wood trusses in the field. The product's emphasis is on worksite safety. 608/274-4849. Wood Truss Council of America, Madison, Wis. **CIRCLE 235**

Big-box luminaire

Holophane offers a compact disc describing the new Retailer luminaire for "big-box" applications. 614/345-9631. Holophane Corporation, Newark, Ohio. **CIRCLE 236**









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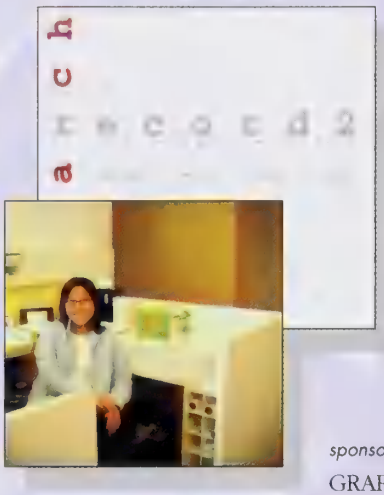
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Dates & Events

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plores the ways in which revolutionary new aterials can transform contemporary architecre. Allows visitors to see and interact with ternative materials and fabrication processes. Harvard University Graduate School of Design. ontact 617/496-1234.

tudioSUMO: Explorations
ew York City
'arch 15–April 15
xhibits the constructed and theoretical work of ıe design collaborative of Sunil Bald and olande Daniels. Gallery opening accompanied y Sunil Bald lecture on March 15. At Parsons chool of Design. Contact 212/229-8955.

he Architecture of Reassurance: esigning Disney's Theme Parks
/ashington, D.C.
1arch 17–August 5
xplores the evolution of Disney theme parks antasyland, Frontierland, Adventureland, omorrowland. Also examines EPCOT's simulated orlds, as well as the "real-world" architecture of isney shops, restaurants, and hotels. At the lational Building Museum. Contact 202/272-2448 r see www.nbm.org.

luminum by Design: Jewelry to Jets
lew York City
1arch 20–July 15
xplores how aluminum has inspired innovation in esign. Includes works by such visionaries as René alique, Jean Prouvé, Ludwig Mies van der Rohe, ussell Wright, Charles and Ray Eames, and Gio onti. At the Cooper-Hewitt National Design luseum. Contact 212/849-8400 or see ww.si.edu/ndm.

oetics of Movement: The Architecture of Santiago Calatrava
)allas
1arch 25–August 5
)isplays almost the entire collection of alatrava's models, as well as small-size sculptures entitled *The Aegean Pieces*. It is the inaugural exhibition at the Meadows Museum at Southern Methodist University. Contact 214/768-3785 or cboleman@mail.smu.edu.

Architecture and Water
New York City
March 28–September
Focuses on five international building projects that integrate architecture, landscape, and infrastructure to fully engage today's waterfront. Includes work of Foreign Office Architects, Diller and Scofidio, MVRDV, Steven Holl and Michael van Valkenburgh, and Alsop and Stormer. At the Van Alen Institute. Contact 212/924-7000.

Frank Lloyd Wright and the Art of Japan: The Architect's Other Passion
New York City
March 28–July 15
Explores the influence of Japanese design on the famous American architect. At the Japan Society. Contact 212/832-1155.

Flights of Fantasy
Lincoln, Mass.
April 7–May 28
Presents a computerized installation that is reminiscent of an outdoor park in which visitors share media messages with the environment and with other visitors. At the DeCordova Museum and Sculpture Park. For more information, contact 781/259-3628 or see www.decordova.org.

Territories: Contemporary European Landscape Design
Cambridge, Mass.
April 20–May 24
Presents a broad overview of current themes, trends, strategies, and completed works of landscape architects in contemporary Europe. Conference on same topic held April 20–21. At Harvard University Graduate School of Design. Contact 617/495-4784 or see www.gsd.harvard.edu.



CIRCLE 81 ON INQUIRY CARD

Dates & Events

Rooms with a View: Landscape and Wallpaper
New York City
April 24–October 14
Provides a tour through 300 years of wallpaper and explores the fascination with landscape themes that resulted in rooms decorated with "views." At the Cooper-Hewitt National Design Museum. Contact 212/849-8400.

Conferences and Symposia

Fourth Annual Candela Lecture
New York City
March 13
Named in honor of the engineer and architect Felix Candela, the lecture is given this year by Professor Mamoru Kawaguchi of Japan, a pioneer of space-frame, inflatable, and deployable structures around the world. MoMA. Contact 212/708-9683 or go to www.seaony.org

Smart Growth
Washington, D.C.
March 19
Joel Garreau, author of *Edge City*, will discuss the technological revolution downtown and on the suburban fringe. Topics will include the ways in which computer networks are rapidly changing life and work in both urban and suburban communities. National Building Museum. Contact 202/272-2448.

Chicago Housing Authority Housing Symposium
Chicago
March 20
Features a series of speakers, including a keynote address by Mark Robbins, director of the NEA. At the University of Illinois at Chicago School of Architecture. See www.thecha.org/competition.

John Joseph Earley: Expanding the Art and Science of Concrete
Washington, D.C.
March 31–April 1
Fourth biennial symposium on the historic development of metropolitan Washington, D.C. This lecture examines the life and work of John Joseph Earley, who developed a "polychrome" process of concrete-slab construction and ornamentation. At the University of Maryland, School of Architecture. Contact Jere Gibber, 703/768-6987 or see www.art-nouveau.org/latrobe.

New New York 2
New York City
Through March 14
Highlights significant recent architecture commissioned for cultural, and other, facilities in New York City. At the Architectural League of New York. Contact 212/753-[illegible]22 or visit the Web site at www.archleague.org.

Suite Fantastique
Columbus, Ohio
Through April 15
This design arts suite fills all five galleries of the Wexner Center and includes opening credits from movies, radical architectural drawings, Postmodern furniture, and a giant beast that visitors can walk through. Contact Karen Simonian, 614/292-9923 or simonian.4@osu.edu.

Wood: An American Tradition
Washington, D.C.
Through April 22
Explores traditional wood-building techniques, as well as issues of forest stewardship, sustainability and the potential of wood as a resource in the future. At the National Building Museum. Contact 202/272-2448 or see www.nbm.org.

Follow the Leader

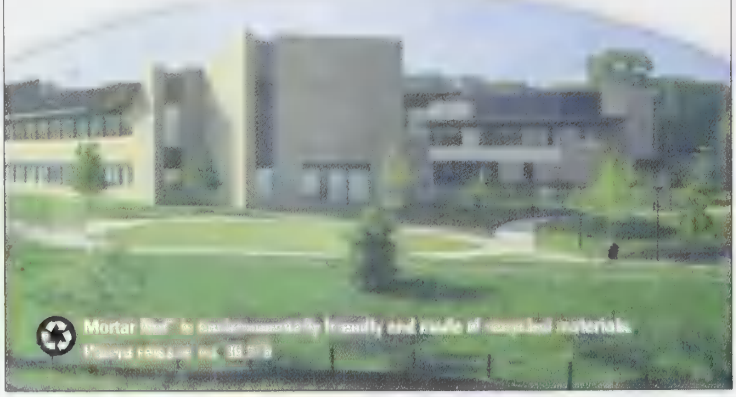
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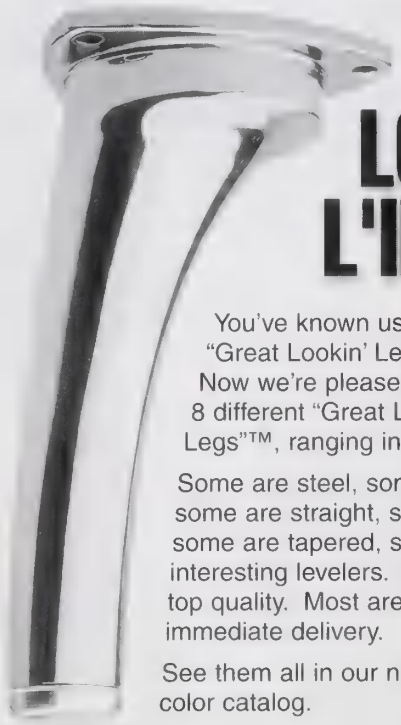
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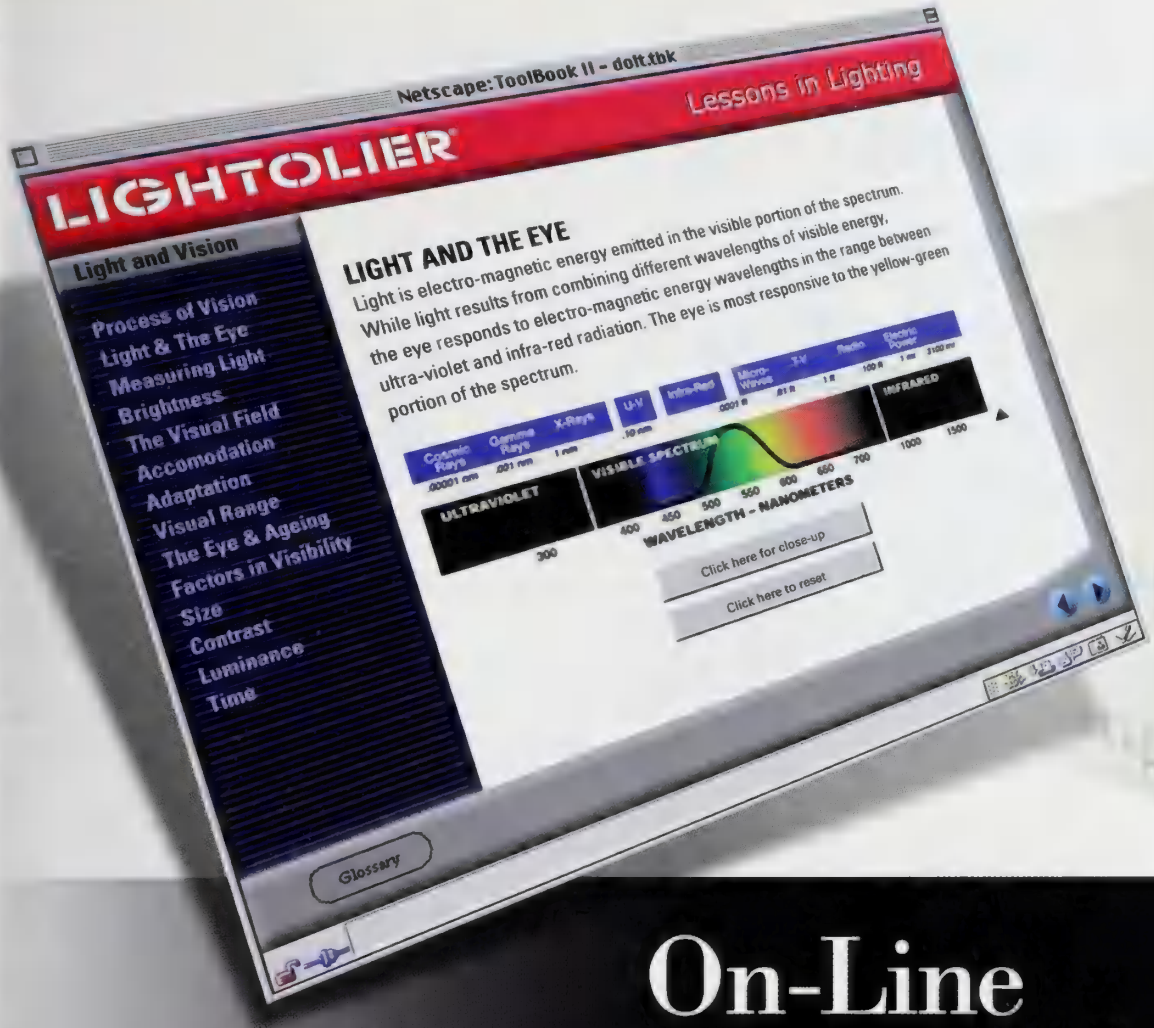
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Dates & Events

The Monterey Design Conference
Pacific Grove, Calif.
April 6–8
Attendance is worth up to 20 AIA Learning Units. At the Asilomar Conference Center. Contact 916/448-9082 or see www.aiacc.org/conferences.

Design Futures Council Meeting: "Anticipate and Capitalize on New Opportunities in the A/E International Marketplace"
Chicago
April 24
Explores International Market Analysis, tactics for success, financing, and legal and risk-management issues. At the CNA Plaza. Contact Beth Seitz, 770/209-3771.

Symposium on Asia-Pacific Architecture
Honolulu
April 5–April 7
The fourth international symposium is entitled "Sensible Design and Smart Practice," and the theme is "Technology, Innovation, and Entrepreneurial Design Practice: New Paradigms for a Changing Global Economy." At the University of Hawaii of Architecture. For more information contact 808/956-7084, E-mail archsymp@hawaii.edu.

2001 Investment Opportunities in China
Chicago
April 25
Firms from the AEC industry interested in developing multinational contacts in China will have the opportunity to network with multinational speakers and attendees. Hosted by CNA and V.O. Schinnerer & Co. CNA Conference Center, CNA Plaza. For more information, contact 703/266-1319.

Symposium on Architecture and Nature
New York City
May 1
Diana Agrest, of the Cooper Un will deliver the keynote addres focusing on the work of Frank Lloyd Wright and more recent architects who the reinterpret nature through built form. The panel of respondents includes Stan Allen, Kenneth Frampton, Robert Irwin. At the New Schoo See www.newschool.edu.

Competitions

Boston Society of Architects/AIA Design Awa Programs
Deadlines begin March 12
Awards are available for design w in various categories, including healthcare facilities, sustainable design, unbuilt architecture, and urban design. Contact 617/951-1433x221 or bsa@architects.org

Ceramics Tiles of Italy Design Competition
Deadline: April 10
Awards are available for tile desig by architects and interior designe involved in commercial or residen work. Contact 212/980-1500 or s www.italytile.com.

Sixth International Design Prize Switzerland
Deadline: April 30
Eligible candidates include private and public designers from Switzerland and abroad. Contact Barbara.Kohler@pr-access.ch.

National Preservation Hono Awards
Nomination Deadline: May 1
Eligible candidates will have completed an outstanding preservation project in the past three years. Contact Susanna French at 202/588-6125.

E-mail your submissions to ingrid_whitehead@mcgraw-hill.com.



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Dates & Events

Flemington Jewish Community Center Design Competition
Deadline: March 15
Competition to select an architect to design a new Jewish Community Center of approximate 23,000 square feet, on a 4.5 acre site in Flemington, N.J. This is a one-stage, national design competition open to licensed architects the U.S. Registration fee is $75. First prize is $10,000. For more information go to www.flemingtonjewishcenter.org/competition/

Boston Society of Architects Design Awards
Deadline: various
Four programs available for all architects who wish to submit projects in New England. The fou programs include healthcare (March 12 deadlir urban design (April 9 deadline), sustainable design (April 30 deadline), and unbuilt architecture (July 16 deadline). Complete submission guidelines may be obtained at www.architects.c (click on "News and Events:, then "Honors and Awards") or call 617/951-0845, or E-mail bsa@architects.org.

Dulux Australia Colour Awards
Deadline: March 15
Dulux has invited architects, interior designers, and students of architecture and interior design to enter its 2001 colour awards. Categories for the award include commercial exterior, commer cial interior, residential exterior, residential interior, public spaces, and temporary structure For more information go to www.dulux.com.au.

Northeast Green Building Design Competition
Deadline: March 15
A competition for the most environmentally friendly buildings in the Northeast U.S., sponsore by the Massachusetts Renewable Energy Trust and organized by the Northeast Sustainable Energy Association (NESEA). Entries (with the exception of the student project category) must be new buildings or renovations completed after January 1, 1997 in the northeastern U.S. For entry information go to www.nesea.org.

E-mail your submissions to ingrid_whitehead@mcgraw-hill.com two months prior to the event or deadline.

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*Source: Public Agenda (1999)

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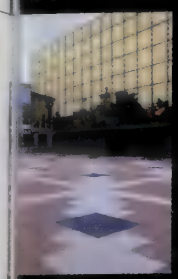
























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ANSWERS

Questions appear on page 154. To receive CES credits, fill in the education reporting form below or on our Web site (www.architecturalrecord.com).

1. The theory Stephen Brown was demonstrating is that an arch will push outward at the bottom when a load is applied to it laterally at the top. In order to prevent an outward movement, the bottom edges of the arch need to be stiffened or braced to handle the force of the downward load. This theory was instrumental in the construction of the glass roof over the courtyard, since the roof is an arch and the existing areas at the bottom of the arch could not support a lateral load.

2. The Reading Room dome consists of 20 cast-iron ribs resting on a brick drum. It was determined to be too brittle to endure any movement from lateral roof loads. In order to prevent the lateral loads of the new roof from displacing the dome, it was surrounded by a concrete slab, which was, in turn, supported by a ring of 20 concrete-filled tubular steel columns. The weight of the new roof falls on the concrete slab and is transferred to the foundation through the columns so that no additional load is exerted on the structure.

3. The facades of the quadrangle were also unsuited to support lateral roof loads from a new roof. These walls enclosed large spaces wit structural walls joining them perpendicularly to provide bracing solution is for the new roof to rest on sliding bearings that allow the load to spread laterally, perpendicular to the relevant facade and pendent of the facades. The structure is stiffened with a tension across each corner and cross bracing behind each portico parallel t relevant facade.

4. The glass roof was designed to give light to the courtyard and pro an airy atmosphere. However, solar radiation would be undesirabl achieve these criteria, the double-glazed glass panels (top layer is pered, bottom layer is laminated) are lightly tinted and fritted ceramic dots over 50 percent of their surface. This blocks 75 perce the solar radiation, while the perceived effect is that of mostly clear g

5. The roof's structural grid is formed by a span of radial, hollow sections, or box beams, spanning between the Reading Room and quadrangle facades. The grid size was determined by the maximum size available. These steel members are interconnected by two oppo spirals. At the perimeter, they must tolerate bending and compression are therefore several inches (or millimeters) thicker at the perimeter t they are at the dome. The spiraling elements are welded of a type of h grade steel, generally used for marine and offshore construct Accurate welding was essential to avoid the possibility of brittle failu The Welding Institute conducted extensive tests and prepared struct welding specifications for the engineers.

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☐ "A Brilliant Shell Game at the British Museum" [page 149]

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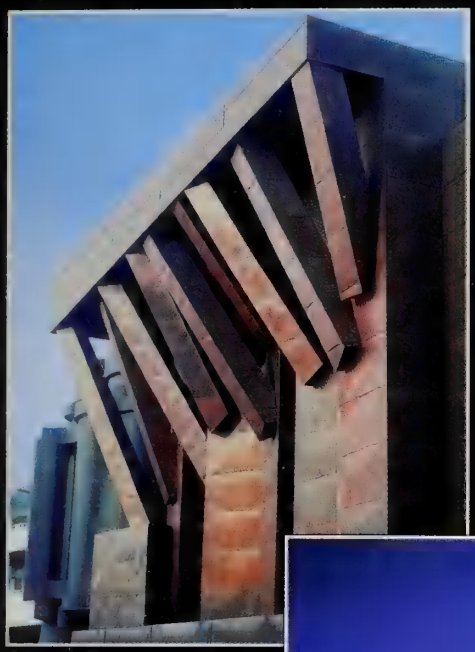
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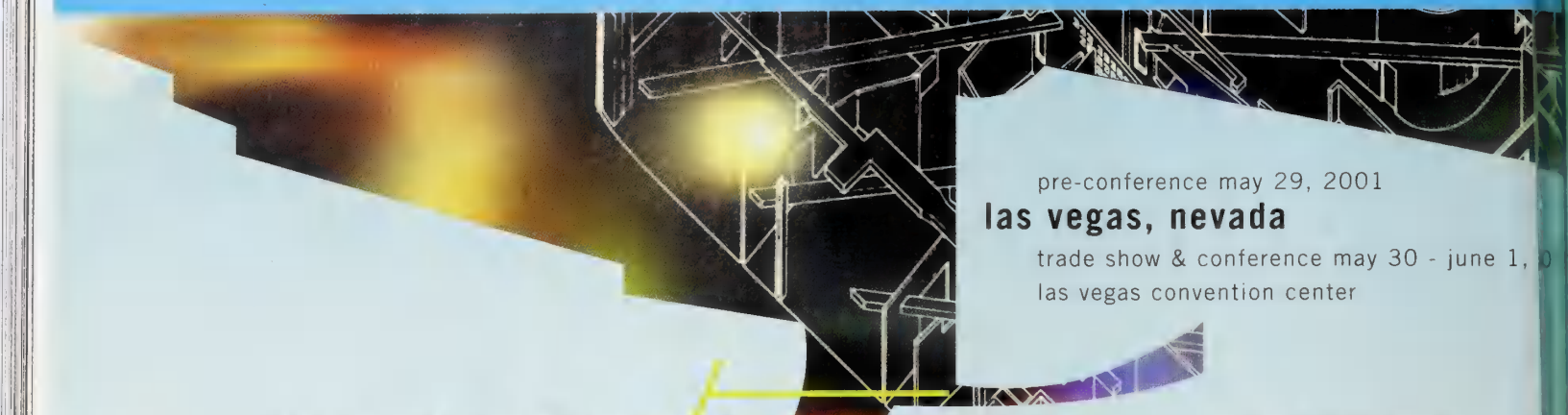
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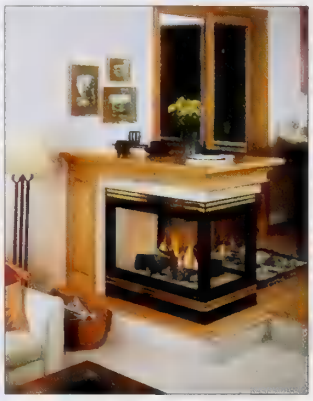


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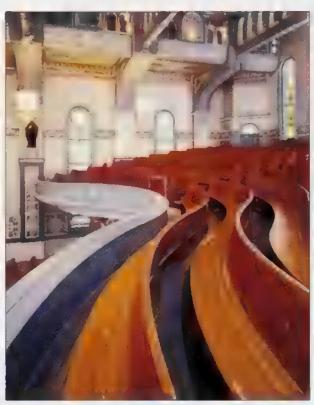


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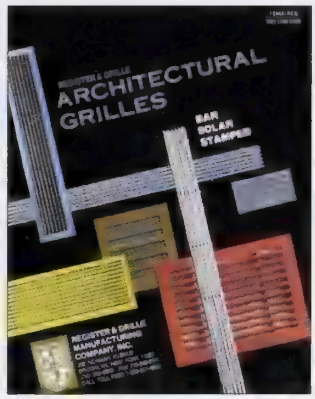


The Bilco Company's new easier-to-use catalog provides detailed information on Bilco's extensive line of roof hatches, automatic fire vents, floor doors and other specialty access products. The catalog includes photographs, cross-sectional details, product selection charts and complete CSI-formatted specifications. For more information call (203) 934-6363 or log-on to www.bilco.com.

The Bilco Company

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Decorative Grilles

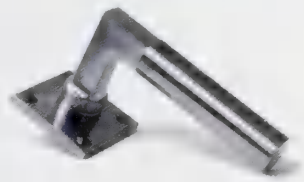


Unusual visual effects emerge when our grilles are designed for area effects. Versatility is the theme. R&G offers architects and interior designers many ways to express the changing forms of metal with the integrity of R&G's architectural grilles. Custom or standard finishes are available plus any grille can be made in matching color to blend with your decor. 202 Norman Ave., Bklyn, NY 11222. 800-521-4895, Fax: 718-349-2611.

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Nanz Custom Hardware Inc.

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Modern American Houses

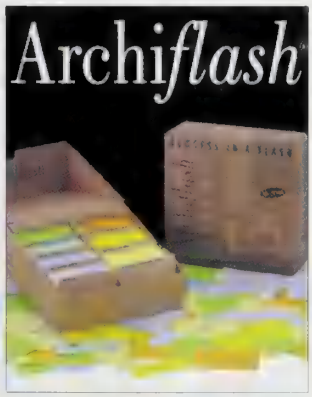


This 230-page book is packed with color photographs of more than 75 houses featured in Record Houses since 1956. New essays explore the evolution of home design decade by decade–Thomas Hines on the '50s, Robert Campbell on the '60s, Suzanne Stephens on the '70s, Charles Gandee on the '80s and '90s. $49.50. To order please call 212-904-4635.

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Bruck Lighting Systems

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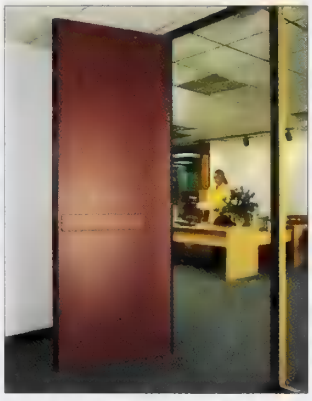


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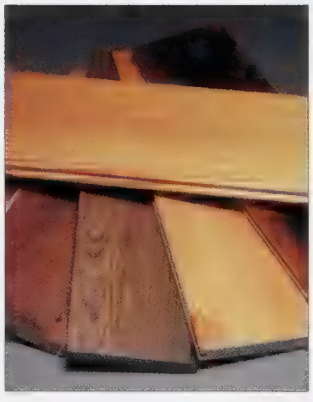


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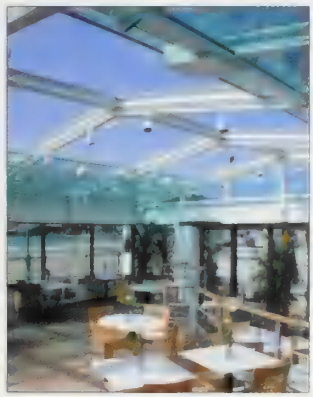


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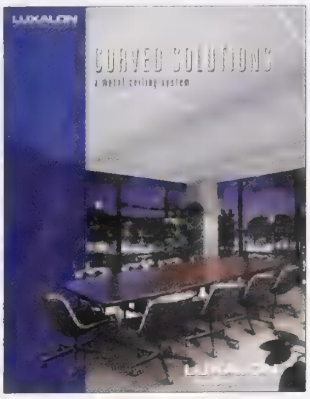
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NATIONAL BUILDING MUSEUM
2001 HONOR AWARD

The Architecture of Imagination:

A Salute to Michael D. Eisner and The Walt Disney Company



Thursday, April 5, 2001

COCKTAILS: 7:00 pm
DINNER: 7:30 pm



The National Building Museum will present its 2001 Honor Award to Michael D. Eisner and The Walt Disney Company. Mr. Eisner and Disney will be recognized for their visionary patronage of significant architecture by many of the world's leading designers. The award will be presented at a black-tie dinner in the Museum's spectacular Great Hall.

EVENT LEADERSHIP INCLUDES: (AS OF FEBRUARY 6, 2001)

Stephen D. Bechtel, Jr.
Frank O. Gehry
Gerald D. Hines
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Robert A.M. Stern

Harold L. Adams / RTKL Associates Inc.
Joseph E. Brown / EDAW, Inc.
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Peter Dominick / The Urban Design Group, Inc.
Douglas Durst / The Durst Organization
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Peter C. Forster / The Clark Construction Group, Inc.
M. Arthur Gensler Jr. / Gensler Architecture, Design and Planning Worldwide
Mike Goodrich / BE&K
Michael Graves / Michael Graves & Associates
Graham Gund / Graham Gund Architects
Hugh Hardy / Hardy Holzman Pfeiffer Associates
Jeffrey C. Hines / Hines
A. Eugene Kohn / Kohn Pedersen Fox Associates, PC
Cesar Pelli / Cesar Pelli & Associates
Jaquelin T. Robertson / Cooper, Robertson & Partners
Richard M. Rosan / Urban Land Institute
David M. Schwarz / David M. Schwarz Architectural Services
Norbert W. Young / McGraw-Hill Construction Information Group

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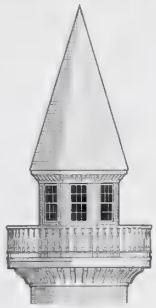
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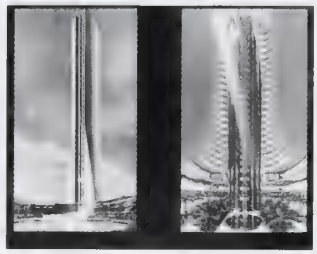
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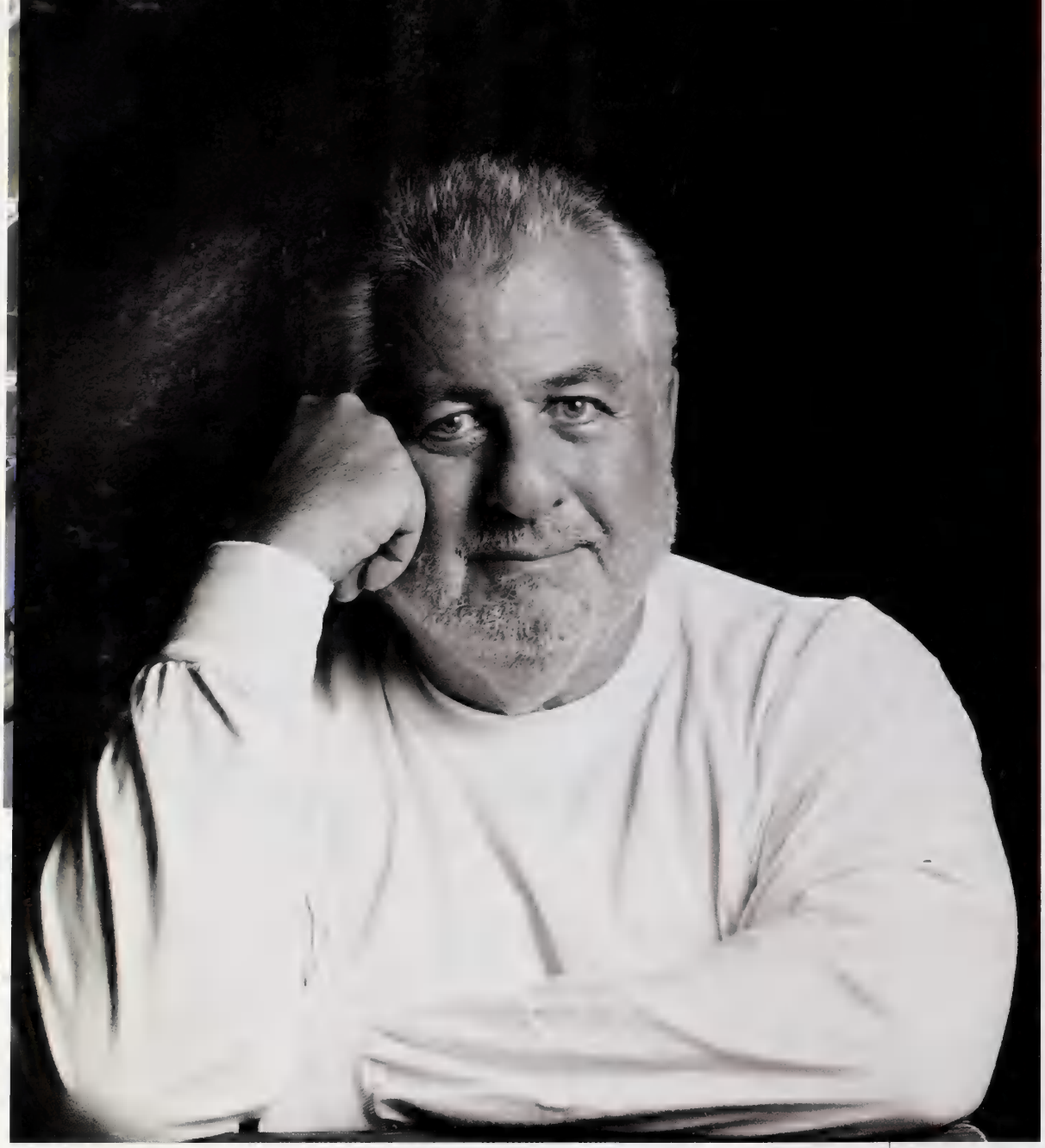
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CIRCLE 93 ON INQUIRY CARD



Richard Saul Wurman: Designing outside the lines

Interviewed by Harris M. Steinberg, AIA

Trained in architecture under Louis I. Kahn at the University of Pennsylvania in the 1950s, Richard Saul Wurman, FAIA, has evolved his career arc at a dizzying pace. Architect, author, graphic designer, educator, publisher, entrepreneur, creative director—Wurman defies categorization. Fueled by what he describes as "unbridled curiosity and a penchant for failure," Wurman appears to pull ripe topics out of thin air and spin them into new and engrossing material and media. In touch with the Zeitgeist, he has created seminal publications such as the groundbreaking Access Press *and the best-selling* Information Anxiety*; he now produces the TED Conferences on Technology Education and Design. His is the story of the world's first (self-proclaimed) information architect.*

Q: *Do you identify yourself as* *architect?* Absolutely. Lo Kahn told me that he served the go architecture, and that whatever he he did it as an architect. If someb asks me what I am, I say one of t things. One is that I run a party Monterey every year. The other is th am an architect.

Do you count yourself as an emissary the profession? Are you supportive the profession? No to both questio Nor would architects want me to be had an architectural office for 13 yea and it's my training as an architect— the spirit of Louis Kahn—that allo me to do what I do every day.

Tell us a little about the TED Co ferences. The conference goes on February. Over 900 people come. Fra Gehry never misses a conference. I tu away 1,000 people each year. There no announcement of it, no mailing, no PR. No press passe and no comps. I don't announce the speakers until it's so out, and then I don't announce them for six months. I d nothing to attract people, so the only attraction is word o mouth. It's also very expensive. So it's an extraordinar meeting and I work to try to design in real time how peopl talk to each other and discover patterns in science, in tech nology, in entertainment and design, in medicine, in the performance o entertainment, in animals. Most of the speakers this year are over 70 years o age or under 30 years of age. My oldest speaker is 96, and my youngest is 9

You call yourself an information architect. I invented the term in 1975, when I was national chairman of the AIA convention in Philadelphia. It was called "The Architecture of Information." Now, I would say that somewhere between 20 and 100,000 people in the U.S. have "information architect" on their business cards. ■

Photograph by Reven TC Wurman

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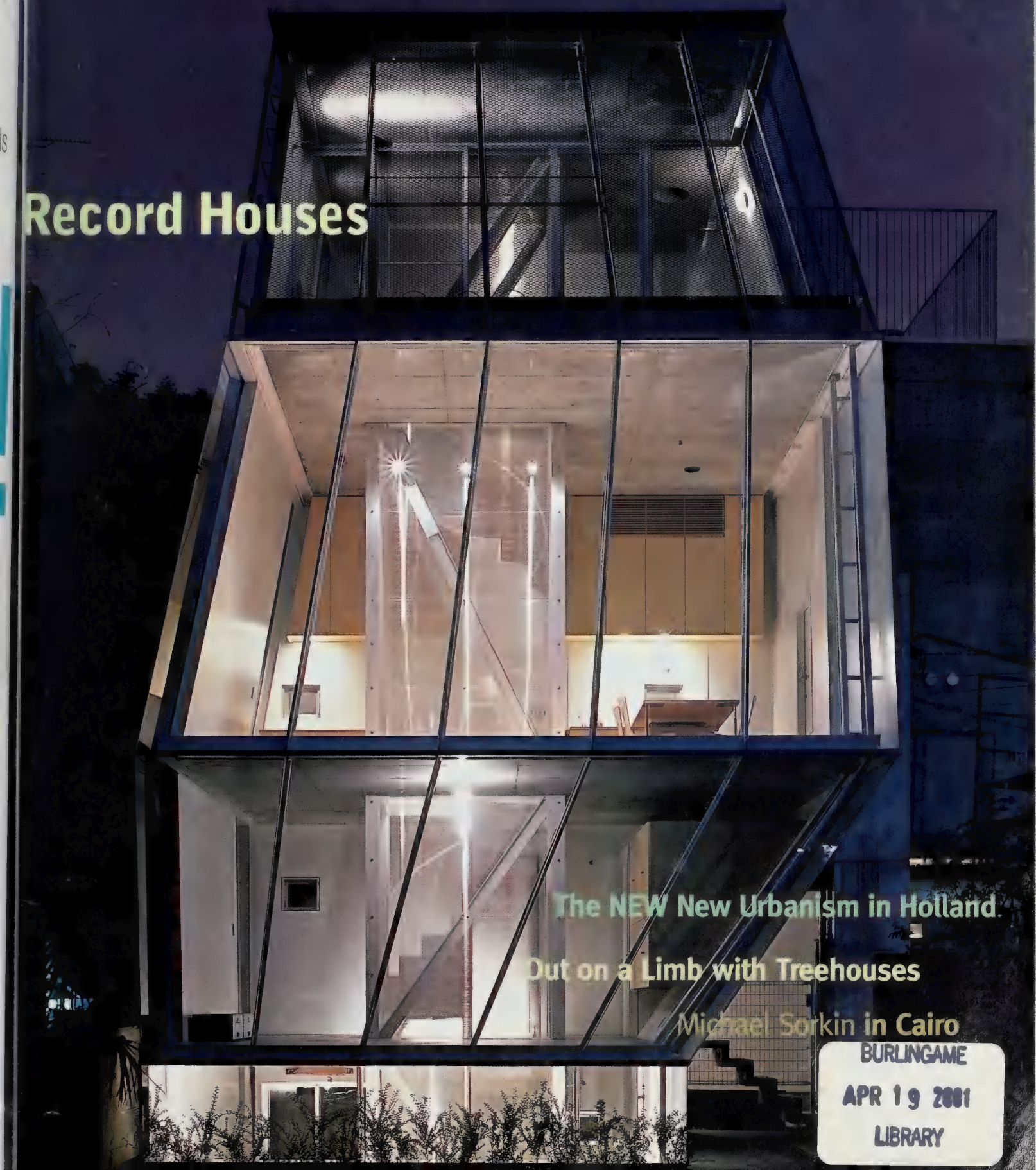
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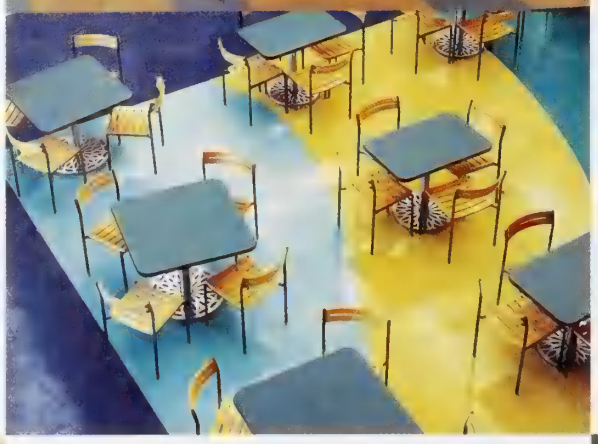
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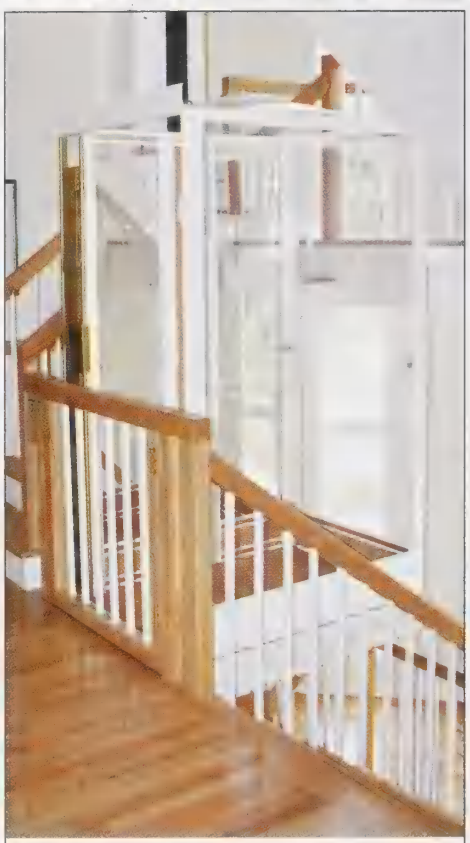
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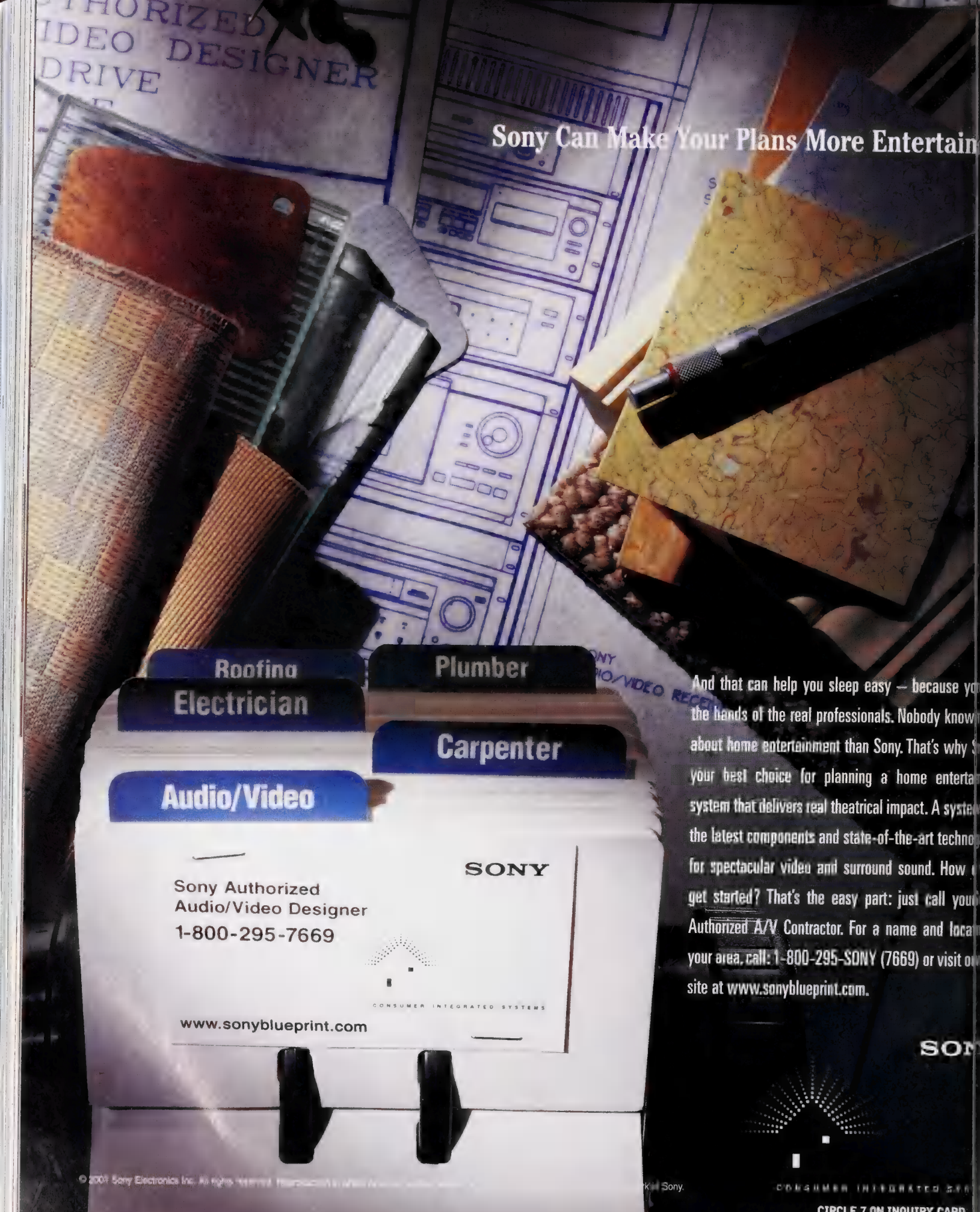


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On the Cover: *Small House by Kazuyo Sejima, Photograph by Shinkenchiku-sha*
Right: *Treehouse in Irian Jaya, New Guinea, Photograph by Harald Melcher* ►

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The AIA/ARCHITECTURAL RECORD Continuing-Education Opportunities *are* **"Weird Science in a New Age of Industry"** *[page 163],* **"New Door Styles Increase Designers' Options"** *sponsored by JELD-WEN [page 180] and* **"Hot Metal Trends"** *sponsored by Metallon [page 186].*

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Photos courtesy of La Dallman Architects

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CIRCLE 9 ON INQUIRY CARD



Editorial

By Robert Ivy, FAIA

The loft on Broadway fell silent as Tarik Currimbhoy took the floor. Indian by birth, trained as an architect, he had gathered a small group of interested friends to share his slides from a visit to the tch region of Gujarat near the Pakistan border, site of the recent earthake on January 26. For most, it would be the first realization of the scale of quake's destruction. No one who sat in that room with its whirring protor was left untouched.

His slides depicted the almost total collapse of the older building bric, whether of adobe or masonry. Parts of the city of Bhuj were leveled; w structures in Ahmadabad, a city of two million, dropped to their etaphorical knees, listing and cracked. The death toll reached 20,000 perns and was rising; aftershocks could still be felt. All told, according to the dian Department of Agriculture, 7,904 villages had been affected, and in ldition to the dead, another 20,000 had been seriously injured. The odor of ath rose like fetid incense from the rubble.

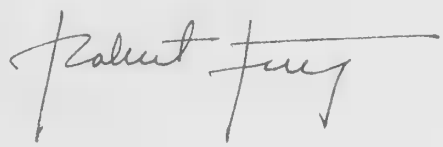
Jump to Seattle a month later. At 10:55 a.m. on February 28, the rth shook for 40 seconds, with waves hitting 6.8 on the Richter scale. "We ad been waiting for that event for the last 10 to 15 years," said Dave Clark, IA, chairman of the local AIA's Disaster Preparedness and Response Team. When the shaking stopped (with only two aftershocks of significance eported), Starbucks City awoke to peeled-off bricks, cracks in some streets, nd falling plaster—a hefty $1.5 billion worth of largely cosmetic damage. Miraculously, no deaths were directly attributed to the quake. Despite its force, he earthquake's deep origin had tempered the effects: Seattle got off light.

When asked what helped, Clark cited an extremely high level of wareness already present in the city. Local codes are rigorously enforced or ven exceeded. For example, businesses and institutions sometimes call for nore restrictive and expensive Zone 4 construction, when Zone 3 would suffice. Many older structures, those built prior to 1960, had been retrofitted for enhanced earthquake performance. A community of volunteer professionals ike Clark, including 169 architects, engineers, and contractors, stood ready to aid overtaxed municipalities in emergency evaluation. Seattle was ready.

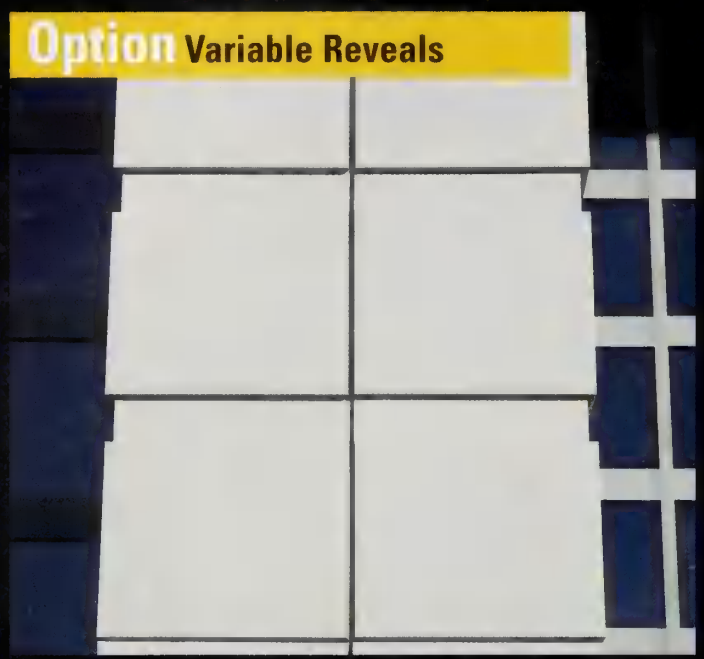
In India, however, well-trained engineers and architects fell victim to a highly compromised system. Recent construction in the region often suffered from poor execution. Concrete, for example, lacked proper ratios of cement to sand and water, or proper curing and slump testing; in order to cut corners, contractors sometimes substituted smaller reinforcing steel rod than specified. "Soft" lower stories, whose floors lack shear walls, such as parking areas, weakened overall building stability and, when stressed, collapsed over their thin colonettes.

By contrast, in the Pacific Northwest, architects and engineers looked and learned from the Northridge and Loma Prieta quakes in California, and from Kobe, Japan's experience. Their scrutiny extended to how flexible a building can be and still retain a glazed curtain wall, for example, or how buildings that survive one quake can be overtaxed in a second occurrence. They understood how the roofs of ordinary tilt-up warehouses can be attached to the panels of the walls themselves to avoid collapse—a mundane detail, perhaps, but such simple lessons avoided massive interruptions in supplying the goods and services of normal life.

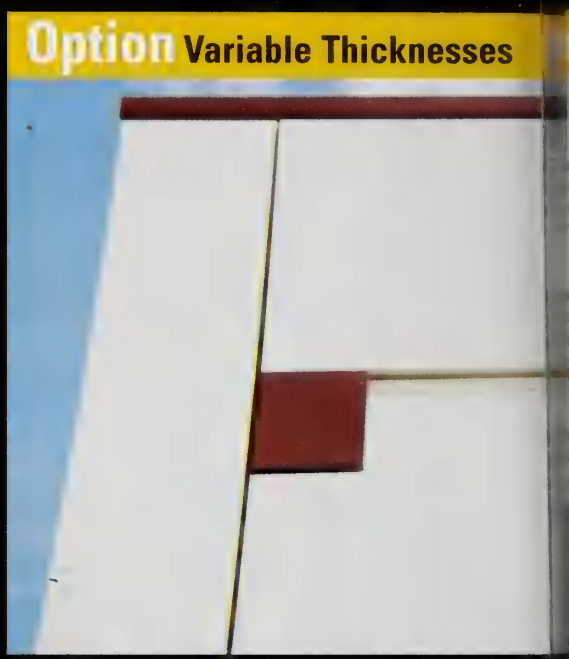
A culture, an ocean, and the subcontinent lie between Gujarat and Seattle, but a restless, molten core connects them. What happened in Kutch and in the state of Washington deserves our professional attention and our concerted focus, since human intervention into nature proved dangerous in one place and benign in another on a massive scale. These events provide a living textbook for architects on the immediacy and vital importance of well-designed and well-executed structures. For as certainly as we share this life-saving knowledge, the earth will shake again.



Design freedom is not a



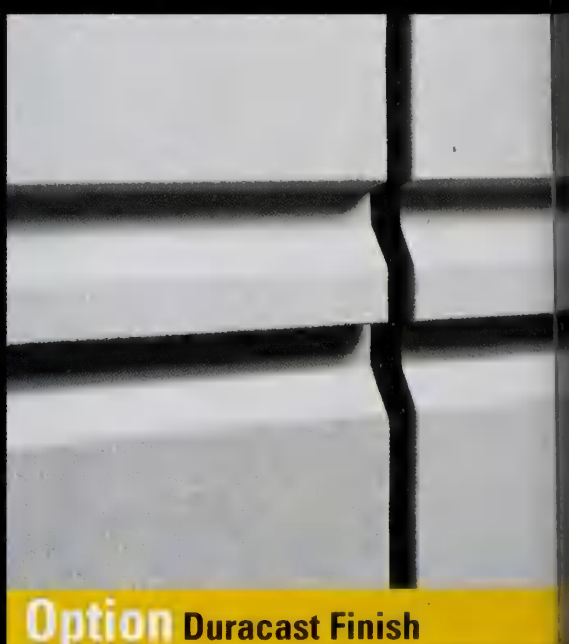
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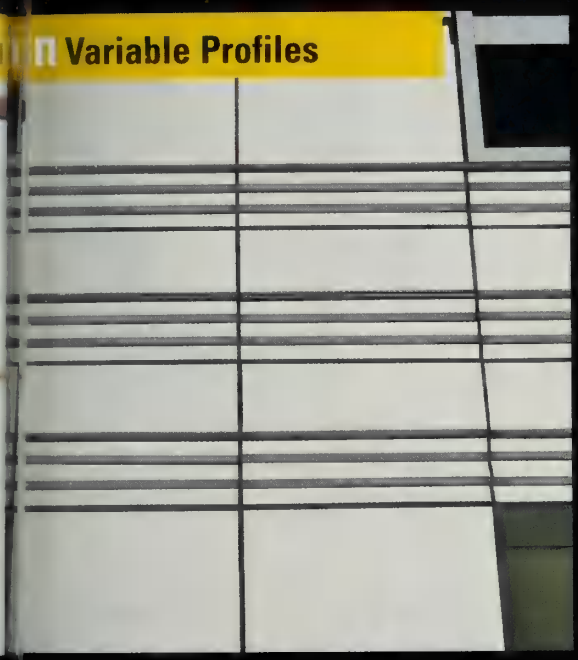


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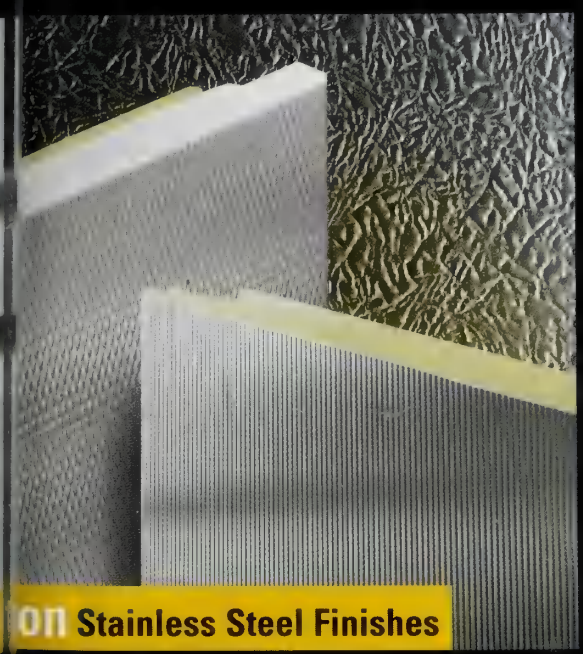
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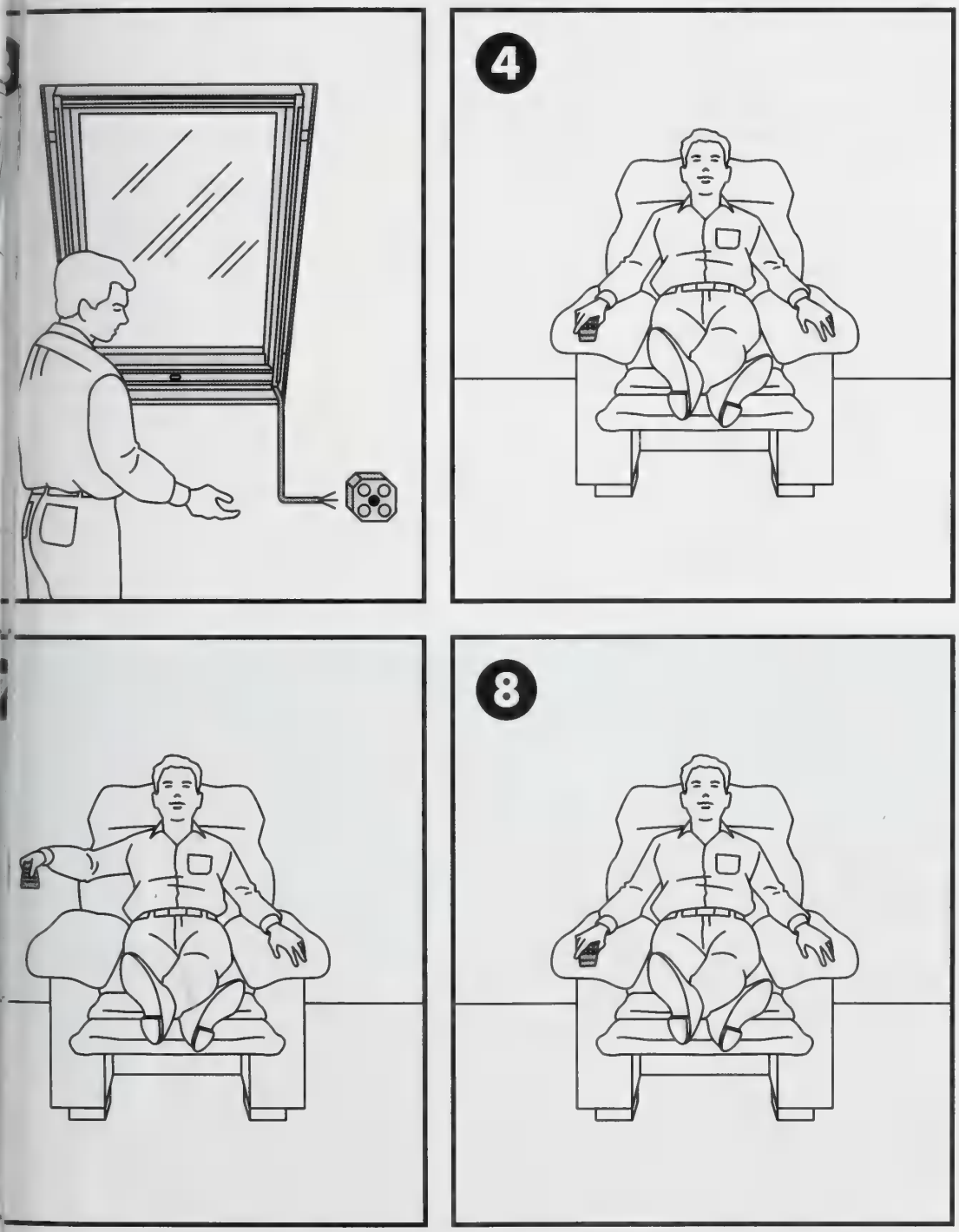








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Letters

DEPARTMENTS

Youthquake

I enjoyed viewing your first edition of archrecord2 [MARCH 2000, page 47], especially the images of the young architects' work you included.

I appreciate your efforts to reach out to the next generation of architects. In future issues, it would also be fun to read writing by younger architects.

—Karin Pitman, AIA
Vice-Chair, YAF Advisory Committee

Market—right on target

In your story about marketing [Marketing, part I, FEBRUARY 2001, page 66], your keen perception of the differences between technical professionals and administrative marketing types—an ongoing source of debate for so long—will, I hope, prompt some serious dialogue.

As someone working in the AE industry for many years, I jumped into the marketing side of the industry with a degree in architecture, thinking that my technical/design background might be advantageous in leading internal marketing functions and communicating AE services in the language of design professionals. I am glad that ARCHITECTURAL RECORD has recognized the challenges faced by people in marketing positions, and I am simply jumping-out-of-my-skin joyful that you have decided to take on this topic.

—Lyn A. Foster
AE Market Planning Consultant
ArchiPro, Inc.
Miami, Fla.

I thoroughly enjoyed part 1 of "Marketing: The Unsung Heroine of Successful Architectural Practice." As a nonlicensed female marketing professional for 13 years with an emphasis in client management, sales, and business development, I felt this article put into words what I have always known but could not effectively express.

What a delight to see ARCHITECTURAL RECORD focus on this important, yet often overlooked, part of the industry. Thank you.

—Lori Ann Worthington
Client Manager
Hart Freeland Roberts
via E-mail

Schools, listen up!

The Building Types Study and the Building Science and Technology features on school construction from the FEBRUARY 2001 issue [Essay, page 131 and 155] both to consider a critical architectural barrier to effective childhood education: that of poor classroom acoustics. In fact, studies show that unsatisfactory environmental conditions in schools are led by acoustics deficiencies, experienced by almost 30 percent of responding school systems located in both old and new structures.

Learning is impeded when sound is obscured by excessive reverberation and background noise in classrooms. At particular risk are kids whose first language is not English, kids with temporary or permanent hearing loss, kids with learning disabilities, and very young children.

For the past three years, the U.S. Access Board has been collaborating with educators, acousticians,



a ologists, architects, and product m ufacturers to develop an ANSI s ndard on classroom acoustics. A aft standard is currently being b oted. The board has made a c mitment to seek implementation c ne standard when approved t ough the model codes, Depart- r t of Education rule-making, or by i rporation into standards issued u ler the Americans with Disabilities (see access-board.gov/publica- t s/acoustic-factsheet.htm for more i rmation).

Design and modeling software ailable today makes it easier to ieve acoustically favorable class- oms. Additionally, a wide range of sorptive materials and quieter AC systems make it possible to eet ANSI/ASA recommendations reasonable cost and without sthetic penalties. Interestingly, ough, the proposed standard does t really raise the bar on class- om acoustic performance: My 973 copy of M. David Egan's *chitectural Acoustics* recom- ends similar values for classrooms that include mainstream youngsters. It's a great text for architects who may need to go back to school on this issue.

—Lois E.L. Thibault
Coordinator of Research
U.S. Architectural and Transportation Barriers Compliance Board
Washington, D.C.

Can't touch this

Congratulations to Juhani Pallasmaa [JANUARY 2001, Critique, page 51], a voice of sanity among the cacophony of market-driven, lavish images that titillate both the profession and the public.

Let us be clear—a collective vision has been abandoned for the sake of individualist uniqueness, even as the AIA touts "Creating Community" in its Denver convention guide. Our hedonistic culture, driving a consumer society, cannot respond easily to Pallasmaa, who questions a "mistaken notion of freedom" and asks for "noble constraint" and "combined humility and pride."

These words are seldom heard in the educational establishment, as it is absorbed in literary theories, (French post-structuralism, etc.), in obscure language, and in shaping complex fashionable constructions in cyberspace rather than on *terra firma*. The media is the message.

—George Anselevicius, FAIA
Dean Emeritus
University of New Mexico

Not dreaming of digital

I found the coupling of "Projects," [DECEMBER 2000, page 81] and "Challenges for the Digital Generation" [page 166] to be profound. Not only do the majority of projects seem inhumane in scale and form but the ultimate expressions of subjugation to CADism.

In our community the state of architecture is generally rated at less than mediocre. Unfortunately, the private and public client base has falsely assumed that mediocre is desirable, and is suspect of an architect's ability if he does not use a CAD system. At 63, I often respond to questions of retirement with the retort, "I will when I fall on my pencil." Seems more poetic than "falling on my mouse."

—R.E. Townsley, AIA, NCARB
Huntsville, Ala.

Corrections

The interlayer used in the lamination for the lens ceiling over the Special Proceedings Room in the Sandra Day O'Connor U.S. Courthouse [MARCH 2001, page 185] was Sentry Glass Plus, supplied exclusively by Dupont. In News [MARCH 2001], the statue on top of Philadelphia's City Hall is of William Penn, not Benjamin Franklin. The City of Cultures Museum, which David Chipperfield is to design, is located in Milan, not Madrid [News, FEBRUARY 2001, page 47]. In the same issue, the name of one of Marlon Blackwell's assistants, Philip E. Hadfield, was misspelled [Projects, pages 94 and 95]. In "Digital Architect," [MARCH 2001, page 173] the fact that McGraw-Hill is an investor in e-Builder was left out.

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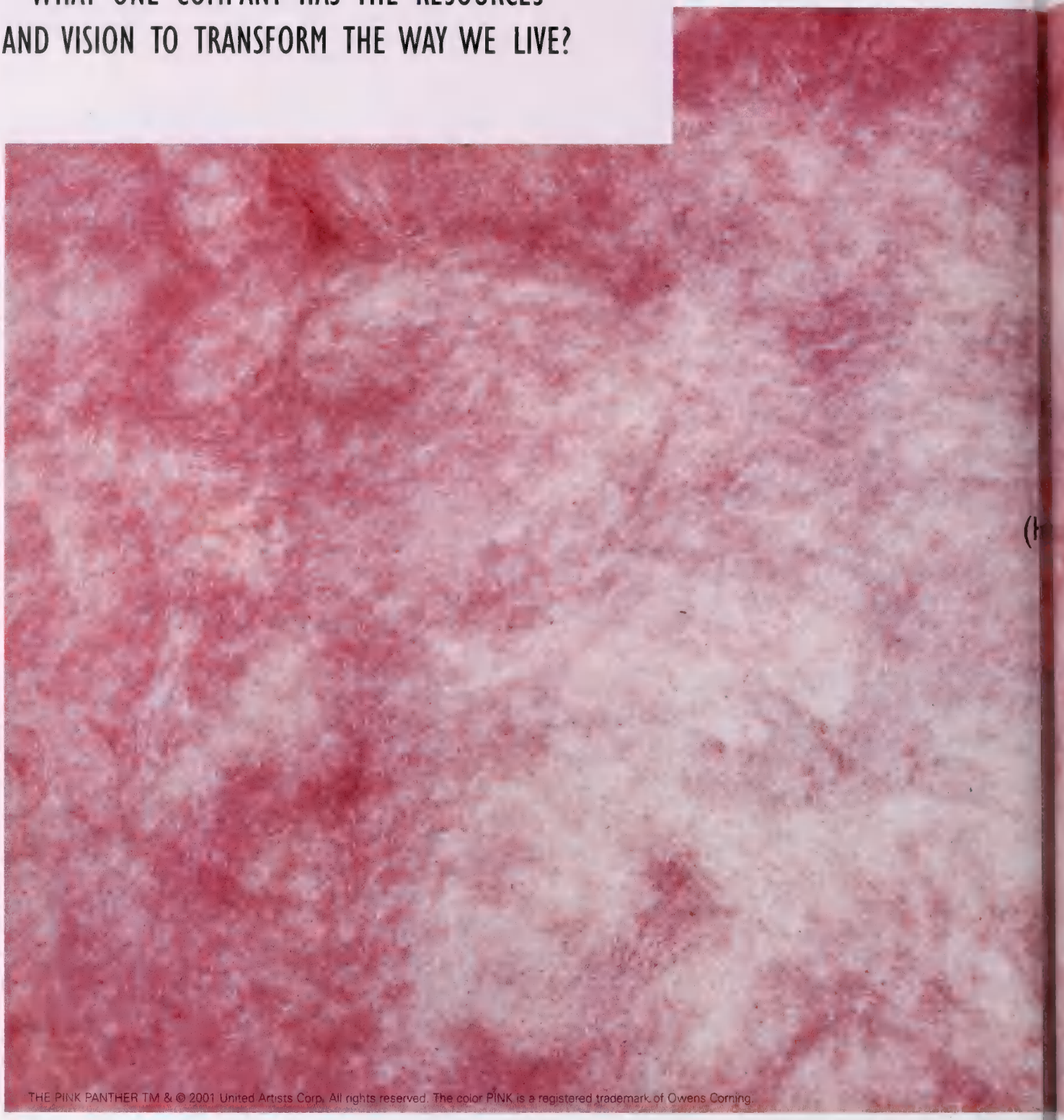


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CIRCLE 14 ON INQUIRY CARD

Record News

Highlights Herzog & de Meuron win Pritzker p. 28
Seinfeld and Gwathmey p. 30
Denver Art Museum by Libeskind p. 32
Architects mobilize after Seattle quake p. 36

4 top architects selected for Hamptons houses

nodel for contemporary housing sign at the start of the 21st ntury may begin to take shape in e Hamptons on Long Island, N.Y. veloper Coco Brown has selected architects (see list at right), each whom will design a house for his est development in Sagaponac, ng Island. Called the Houses at gaponac, the development will owcase of some of the best archi- ctural talent in the United States this time.

"I think this will be somewhere etween something very nice and e most important architectural ent of the 21st century," says own, a former screenwriter who ade a fortune in real estate in the s Angeles area. In 1994 Brown urchased 100 already-subdivided cres in Sagaponac. He waited, atched the real-estate market, and ecided to create an antidote to the oorly designed, out-of-scale man- ions springing up in the Hamptons nat, he says, are "financial, social, nd artistic disasters."

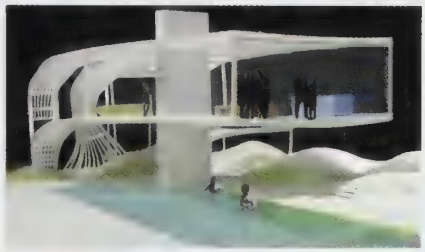
Brown asked his friend, architect Richard Meier, FAIA, to assist in selecting visionary architects (see interview with Meier on the following page). Meier will design one of the houses himself and is advising Brown without a fee.

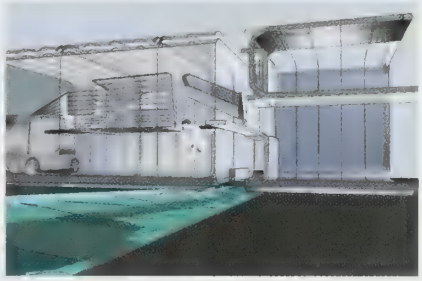
Meier called upon many younger architects, some of whom have never had a free-standing house built, such as Jesse Reiser and Nanako Umemoto. The mix, with 23 New York architects, includes a few of Meier's contemporaries and friends. Peter Eisenman, for example, plans to build a variation on his unbuilt House IV. Henry Cobb has never had a house built before.

In terms of guidelines, architects were simply directed to be conscious of site, scale, and budget. Construction on the 1½- to 3-acre lots will begin within months, and the first house will be complete by the end of the year. According to Brown, houses will range from 1,800 to 4,500 square feet and will cost from $750,000 to $2.5 million—relatively modest by Hamptons standards. Potential buyers will be matched with a house that meets their needs.

"What we may be doing," Brown asserts, "is creating a new model for a summer house."

John E. Czarnecki, Assoc. AIA



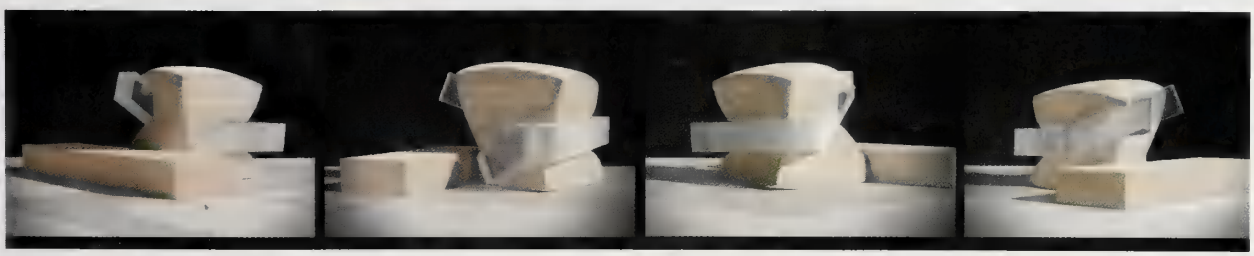


HANDPICKED BY MEIER

Richard Meier and Coco Brown selected the following architects to design houses at Sagaponac:

1. **Al-Sayed and Grybaitis**
2. **Stan Allen**
3. **Anthony Ames**
4. **Deborah Berke**
5. **Henry N. Cobb**
6. **Francois de Menil**
7. **Peter Eisenman**
8. **James Inigo Freed**
9. **Richard Gluckman**
10. **Michael Graves**
11. **Charles Gwathmey**
12. **Hanrahan and Myers**
13. **Hariri and Hariri**
14. **Steven Harris**
15. **Hodgetts and Fung**
16. **Steven Holl**
17. **Carlos Jiminez**
18. **Robert Kahn**
19. **Stephen Kanner**
20. **Mark Mack**
21. **Richard Meier**
22. **Samuel Mockbee**
23. **Eric Owen Moss**
24. **Thomas Phifer**
25. **Reiser and Umemoto**
26. **Jacquelin Robertson**
27. **Richard Rogers**
28. **Rotondi and Stevens**
29. **Dan Rowen**
30. **Lindy Roy**
31. **Annabelle Selldorf**
32. **Smith-Miller + Hawkinson**
33. **Tsao and McKown**
34. **Williams and Tsien**





Houses in the Sagaponac development will include (from top) the first freestanding house built by Jesse Reiser and Nanako Umemoto; a home by Lindy Roy with a "water zone" including an integrated pool and diving platform; a design by Stephen Kanner with panels that can be opened and closed; and a sculptural house by Eric Owen Moss that is enveloped by a walkway and stair.

Herzog & de Meuron win Pritzker Prize

Jacques Herzog and Pierre de Meuron of Switzerland were named recipients of the 2001 Pritzker Architecture Prize on April 2. The award ceremony is May 7 at Monticello. For more, visit www.archrecord.com.

OFF THE RECORD

The Akron Art Museum has announced a shortlist of three firms to design a 50,000-square-foot building adjacent to its existing 1899 museum. The firms are Coop Himmelblau of Vienna, Snøhetta of Oslo, and UN Studio of Amsterdam. Construction, scheduled to begin in 2003, will likely be complete in spring 2005.

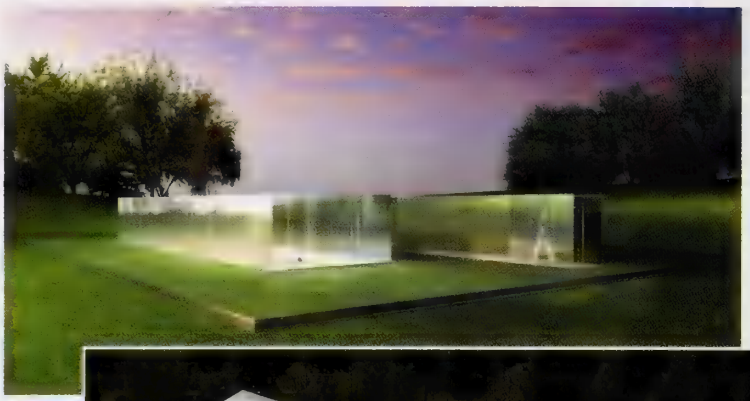
Finalists in the competition for a new home for the Rensselaer Polytechnic Institute's Electronic Media and Performing Arts Center building are: Nicholas Grimshaw, Thom Mayne of Morphosis, Thomas Lesser with Davis Brody Bond, and Bernard Tschumi.

Judith DiMaio was named dean of the School of Architecture and Design at New York Institute of Technology. She was previously director of undergraduate studies in architecture at Yale.

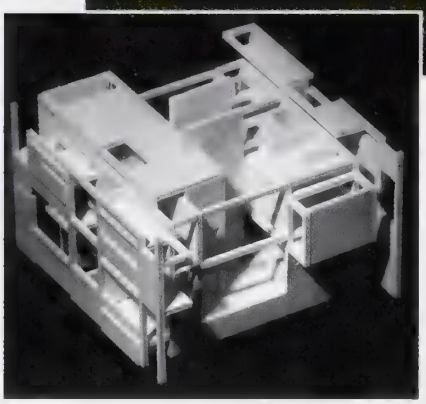
Toronto interior design firm Yabu Pushelberg was selected to redesign the interiors of Tiffany & Co.'s New York flagship store on Fifth Avenue. The project, which should be complete in 2004, is expected to cost $71 million.

The Dallas Museum of Natural History announced Frank Gehry, FAIA, as the architect for its new 100,000-square-foot, $[illegible] million building.

From the "I Can't Relate" file: Bill Gates, feeling cramped in his 48,160-square-foot house, valued at $113.5 million, plans a $750,000 addition with a guest pavilion and children's rooms.







Houses at Sagaponac will include one by Thomas Phifer (top) that will be nearly completely underground with a glassy courtyard above, a house by Gluckman Mayner (above), and a variation on Peter Eisenman's House IV (left) that was designed in the 1970s but never built.

Hamptons development, according to Meier

Richard Meier, FAIA, met with RECORD news editor John Czarnecki, Assoc. AIA, to discuss the Sagaponac development in Long Island (see story, previous page). Meier assisted his friend, developer Coco Brown, in the selection of 34 architects, each of whom will design a house at Sagaponac.

ARCHITECTURAL RECORD: *Can you explain the architect selection process?*

RICHARD MEIER: It was totally irrational [he grins]. I began by thinking about it as only younger people, in all frankness, and not even necessarily doing a house myself. It was really for younger people. But as we got into it, it seemed that a mix made it a bit different, and so there are some older people who had never done a house before (Henry Cobb) and some that I respect and am personally close to, like Charlie Gwathmey and Peter Eisenman and Michael Graves.

AR: *Did you have specific goals for the project at the onset?*

RM: The goals were really to have everyone produce their best work in a setting that wasn't isolated—a kind of coming together of a very diverse group. To give them an opportunity that perhaps they have not had because they teach or are busy with other projects.

AR: *The architects were given few design guidelines. Why?*

RM: We talked about giving guidelines and I was against it. I think this kind of exercise shouldn't have the

AR: *Will the mix of architectural styles be somewhat eclectic?*

RM: Actually, it won't be as eclec as you think. For the most part, there is a shared attitude among the architects about architecture as an art, as something that is n of the past but has some meanin in terms of our times. To some degree, they have a shared sensitivity, although expresse very differently. In the design I've seen thus far, there's a respect for human scale in a of them. Not one is outrageous or inappropriate.

AR: *Now that the architects have submitted schematic designs, are you working with Coco Brown to review them?*

RM: They all pass by me, but I'm not editing or criticizing them. I'm just commenting in very casual way, not as a criti

AR: *But if there were concern of any kind . . .*

RM: If there were concerns, I'd be there to give guidance. I feel my pu pose is to guide it the best way I c without being totally involved in it. It's very thin ice I'm walking on her because I want it to be as good as possible and I want everyone to fe that they are on their own. I'm not here to shepherd it in any way. But someone went too far afield, I'd try to bring them back.

AR: *Is it fair to compare this to the 1927 Mies-planned Weissenhof-siedlun in Stuttgart, Germany?*

RM: No—nothing to do with that.

AR: *So you have not made that comparison, as some have suggested?*

RM: No.

AR: *In a* New York Times *story about this development, your frien Charles Gwathmey said: "I'm just not sure what the point is in puttin a lot of exercised houses close together on a nondescript site." So, what would you say the point is?*

RM: The point is to give talented, thoughtful, namely young architects an opportunity to do something that they hadn't been able to do before and to do it in a way that hopefully results in things we can't predict in terms of making a community.



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CIRCLE 15 ON INQUIRY CARD

OFF THE RECORD

Architecture & Partners has designed an $85 million manufacturing plant and office for Rolls-Royce in Goodwood, West Sussex. Construction should be complete in 2003, when BMW assumes responsibility for all Rolls-Royce business and production.

Peter Eisenman is one of 14 people to be elected in 2001 as a member of the American Academy of Arts and Letters. The 250 academy members are artists, architects, musicians, and writers.

The recently restored Rothko Chapel [AUGUST 2000, page 27] in Houston by Philip Johnson has been added to the National Register of Historic Places.

The Greater Boston Chamber of Commerce named Tsoi/Kobus & Associates as 2000 Small Business of the Year. The firm is working on a new medical education center at New York City's Mount Sinai School of Medicine.

Germany's Behnisch, Behnisch & Partners has won a competition for an architectural framework plan for a sports campus in Dublin, Ireland.

The two-year-old firm Opsis Architecture of Portland, Ore., has won a competition for a $40 million building for the Foothills Center for the Arts in Scottsdale, Ariz.

Holabird & Root, Alan Short and Associates, Perkins Eastman Architects, Randy Brown Architect, and Anderson Anderson Architecture with Booth Architecture are in a competition for an academic center to house the division of art, design, and architecture and a library at Judson College in Elgin, Ill. A winner will be chosen this month.

The Design Trust for Public Space awarded fellowships to Stanley Jones and Keller Easterling to study alternative uses for the High Line [FEBRUARY 2001, page 34] in New York City.

Seinfeld: "What's the deal with my house?"

Lectures can be deadly dull, but not this one. Architect Charles Gwathmey, FAIA, lectured at the Parsons School of Design Department of Architecture in New York City on March 1. While technically an alumni event closed to outsiders, there was an unexpected visitor—one of Gwathmey's clients.

During the student-moderated question-and-answer forum, a hand went up in the audience and a strangely familiar voice was heard: "Yes, I'm a comedian."

The audience immediately laughed at this unlikely opening. There aren't many architects or architecture students who would admit to being a comedian. Who could possibly be speaking?



Jerry Seinfeld



Charles Gwathmey

The comedian continued: "And, I came here tonight to ask Mr. Gwathmey when my house is going to be completed. For, you see, I've been trying to reach you at the office and have been having a really difficult time doing so, and I wanted to ask you in person."

At this point the audience was laughing and, in part, aghast.

Gwathmey, without skipping a beat, replied: "Yes, Mr. Jerry Seinfeld, you are quite the comedian. And if you don't plan on getting married again and having another baby within the next three months, your house will be ready by this summe

At this point, everyone in the audi ence turned around, and there was Jerry Seinfeld! The audienc was amused by Gwathmey's respons and who would have expected Jerry Seinf to be at the lecture? Does Seinfel need something to do now that hi hit television show has ended?

Then, by way of explanation, Gwathmey added: "You see, when Mr. Seinfeld first became our clien he was a bachelor. Then he got married and the program changed And then he had a baby and the program changed again. So it's really not completely our fault that his house isn't ready yet!"

Could this encounter betwee the comedian and his architect be satirized in the future? Watch your televisions. *Elisheva Levi*







Gwathmey Siegel designs NY Public Library

New York architecture firm Gwathmey Siegel & Associates Architects was selected more than a year ago in a competition for a major renovation and addition to the Mid-Manhattan branch [APRIL 2000, page 31] of the New York Public Library (NYPL). Groundbreaking, though, is still in the distant future—no date has been set—as the NYPL continues to raise funds for the project, which had an initial budget far below the current estimate of $120 million.

Drawings of all three competition entries have only now been made public. Gwathmey Siegel's project (left) won out over projects by Smith-Miller + Hawkinson Architects with Shepley Bulfinch Richardson and Abbott (bottom left) and Hardy Holzman Pfeiffer Associates (HHPA) (bottom right). A spokeperson for the NYPL noted that, although Gwathmey Siegel won the competition with the design shown here, the scheme may be modified before construction begins.

The Mid-Manhattan branch is the central branch library at Fifth Avenue at 40th Street, not to be confused with the landmark Humanities and Social Sciences Library that anchors Bryant Park across the street. The largest branch library in the NYPL system, the Mid-Manhattan branch serves 4,000 people daily and is expected to serve 8,000 with the addition. Expansion plans tentatively call for 117,000 square feet in eight stories built on top of the existing 139,000-square-foot building.

Gwathmey Siegel proposes "A Beacon of Knowledge" in a glass-and-steel sculptural volume above the existing limestone-sheathed library. Smith-Miller + Hawkinson Architects with Shepley Bulfinch Richardson and Abbott designed a "lantern" with an "intelligent" skin that would also act as an information-display surface. HHPA's sinuous tower called for elimination of a portion of the existing building. *JEC*



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CIRCLE 16 ON INQUIRY CARD

"Walls turn into floors which become roofs" in Libeskind design for Denver Art Museum

Daniel Libeskind's $62.5 million addition to the Denver Art Museum will be an explosion of geometric forms, according to a design unveiled by the architect in February. The addition will contrast sharply with the existing museum—a 1971 fortresslike structure designed by Italian Modernist Gio Ponti.



"It is constructed from walls which turn into floors which become roofs," says Libeskind (right) in describing his design. "It is a seamless space of continuity that really flowers in a kind of tectonic arrangement."

The 146,000-square-foot structure will be built of glass, titanium, and gray granite. It will feature a dramatic lobby with a glass ceiling and a sharply angled, cantilevered section that soars across a busy street toward the existing museum. A curved glass bridge will link the two museum buildings.

With Ponti's museum and the adjacent Denver Public Library (designed by Michael Graves), Libeskind's addition will form a sort of trinity of architectural design of the last 30-plus years.

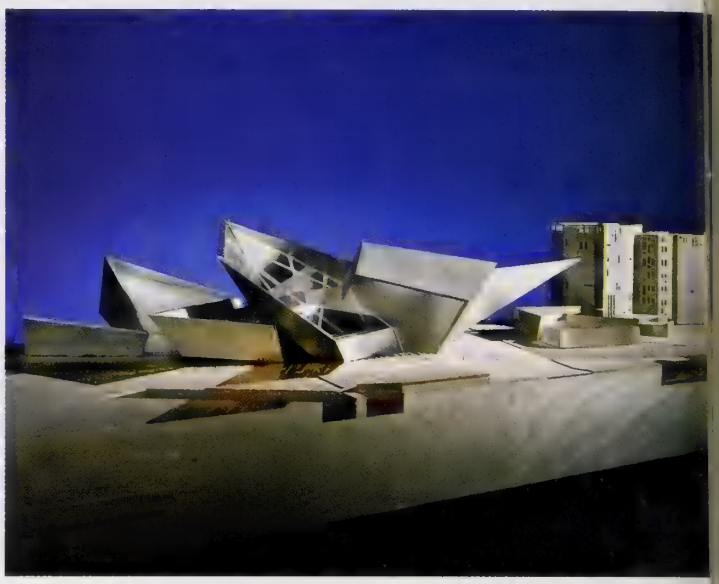
"Architecturally, this is not a stand-alone building," Libeskind promises. "It's a building that has a very strong relationship to its huge and powerful architectural neighbors, both the Ponti building and the library. The building is in a synergetic relationship" with the existing structures.

When completed in 2005, the four-story addition will nearly double the size of the museum. It will include gallery space, a theater, a restaurant, and a rooftop sculpture garden offering spectacular views of the Rocky Mountains. A separate aboveground parking garage will hold 1,000 cars.

City and museum officials hope Libeskind's addition will do for Denver what Frank Gehry's Guggenheim has done for Bilbao, Spain. "It will put Denver on the map as a world-class destination city," says Denver mayor Wellington Webb.

"Like great art," says museum director Lewis Sharp, "[Libeskind's] design will not only get the local community talking, but the whole world will begin to take notice."

David Hill



The Daniel Libeskind addition to the Denver Art Museum (existing museum building to the right in photo above) will include a number of sharply angled volumes, one of which protrudes over a street in downtown Denver.



Five unique teams compete for design of Manhattan East River site near UN headquarters

The most talked-about New York architectural competition thus far in 2001 is about to get under way. Five architectural teams are competing to design a five-million-square-foot mixed-use project on the site of a former Consolidated Edison (Con Ed) steam plant on the East River just south of the United Nations headquarters, from 35th to 41st Streets between First Avenue and FDR Drive. A specific mix of uses has not been set, but it will include substantial residential and office development.

The teams are: David Childs of Skidmore Owings & Merrill, Richard Meier, Peter Eisenman, and Hugh Hardy; HOK and Schuman Lichtenstein Claman Efron; Kohn Pedersen Fox, Rem Koolhaas, Davis Brody Bond, and Toyo Ito; Henry Cobb and James Ingo Freed of Pei Cobb Freed & Partners and Machado & Silvetti Associates; and Christian de Portzamparc and Gary Edward Handel & Associates.

Richard Meier, FAIA, explained to RECORD the fairly casual development of his unique team: "David [Childs] and I had been talking about doing something together for a long time. I read about this [possible] project months ago and I said to David that this looks like a terrific opportunity to do something. Then Peter [Eisenman] said he'd like to be a part of this and we said, 'Sure, why not?'"

FSM East River Associates, a partnership between Fisher Brothers and Sheldon H. Solow, is developing the nine-acre site. The partnership recently acquired the land from Con Ed.

The five teams will make presentations on their team capabilities and design vision in late April or early May. The architect selection process is led by Bill Lacy, FAIA, president of Purchase College of the State University of New York and executive director of the Pritzker Architecture Prize. ***JEC***



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CIRCLE 17 ON INQUIRY CARD

For sale: Modern masterpiece vacation home, known to flood, asking $2 million to $4 million



Ludwig Mies van der Rohe's Farnsworth House is for sale.

The Farnsworth House, one of Ludwig Mies van der Rohe's masterpieces, is being put up for sale by its owner of nearly 30 years, London real-estate developer Lord Peter Palumbo. The impending sale raises the question of whether the public will continue to have access to the steel-and-glass pavilion, which has been open for tours since 1997.

Mies designed the house, located about 50 miles southwest of Chicago, as a weekend retreat for Dr. Edith Farnsworth, a Chicago nephrologist. It was completed in 1951 at a cost of $73,000. According to Mies biographer Franz Schulze, the 2,156-square-foot home may be priced in a range of $2 million to $4 million.

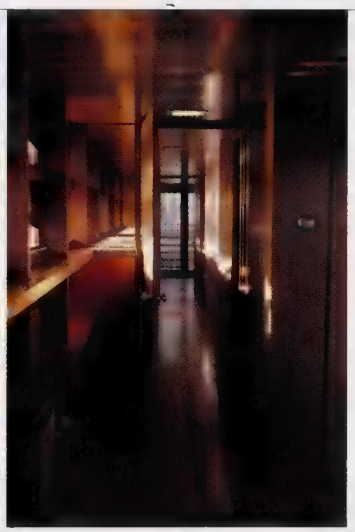
Palumbo has owned the house since 1972. He said in an interview that he is having health problems and is paring down his collection of trophy vacation homes, which include two Le Corbusier townhouses outside Paris and Frank Lloyd Wright's Kentuck Knob in western Pennsylvania.

The British peer, whose primary residence is in London, has been an ideal owner. Not only has he outfitted the house with furnishings faithful to Mies' intent, he also spent more than $250,000 to restore the riverside home after it was inundated by floodwaters in 1996. Tourists have thus been able to get a rare glimpse at a museum-quality Mies interior.

Concerned that the Farnsworth House could fall into the hands of an owner who would keep the public out, some influential people are urging the state of Illinois to buy the home and keep it open. That would follow a precedent set by the state in the 1980s with the purchase and restoration of Wright's Dana-Thomas Home in Springfield, Ill. *Blair Kamin*

This summer, two exhibitions on the work of Ludwig Mies van der Rohe will be presented concurrently in New York: ***Mies in Berlin****, June 21 through September 11 at the Museum of Modern Art (MoMA), and* ***Mies in America****, June 21 through September 23 at the Whitney Museum of American Art.*





Frank Lloyd Wright's only Oregon house saved, dismantled, and moved

Although Oregon is routinely hailed for its beauty and livability, buildings by legendary architects do not often sprout here. So when the state's only Frank Lloyd Wright structure became threatened with demolition last fall, the local community came to its rescue.

Completed in 1964, the Gordon House in Wilsonville, Ore., is one of only two homes constructed from Wright's "House for a Family of $5,000–6,000 Income" design for a 1938 issue of *Life* magazine. After the Gordons died, their son put the house and 22-acre property up for sale at a price beyond the reach of nonprofits. In September, David and Carey Smith bought the house and property for $1.1 million, intending to tear the house down and build a new, larger home.

"There's some of us ready to block the bulldozers," AIA Portland's Saundra Stevens told the *Oregonian* in September after a demolition request was filed. But the house was ultimately saved by simple economics. Just minutes before a Clackamas County demolition hearing, the Smiths agreed to donate the Gordon House to the Frank Lloyd Wright Building Conservancy in exchange for disassembly and removal within 105 days. The Smiths gained monstrous tax breaks while avoiding both demolition fees and the community's ire. The conservancy is selling the house to the Oregon Garden Foundation.

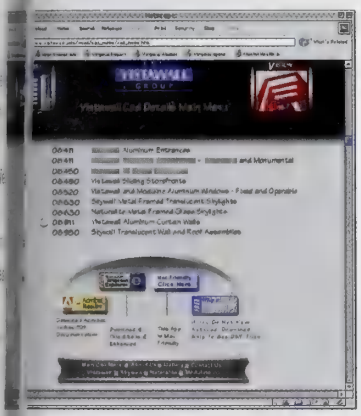
Early this year, with a deadline looming, workers raced to dismantle and catalog the house, woodwork, windows, and built-in furnishings. Construction crews moved the Gordon House 30 miles away to the Oregon Garden in Silverton on March 11. It will take the rest of the year to put the house back together, with a new concrete floor. Lower walls, unable to be removed without significant damage, will be re-created. The house will be sited on the same compass orientation as at the original site.

Although the conservancy traditionally prefers Wright houses to be used as private residences, the Gordon House will serve as a museum and public meeting facility. Since the conservancy was founded in 1989, no Wright structures have been destroyed. *Brian Libby*

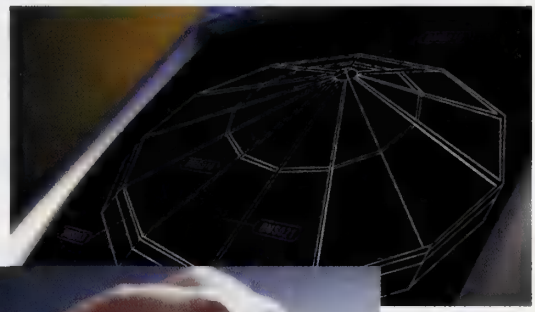
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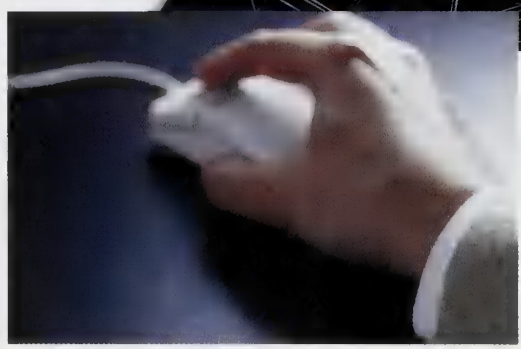
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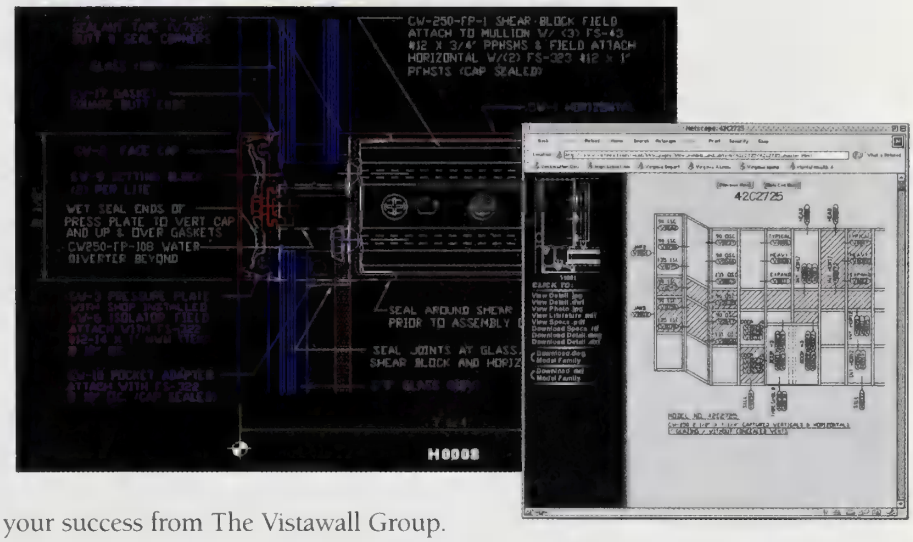
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CIRCLE 19 ON INQUIRY CARD

Seattle architects mobilize and assess in quake aftermath

In the aftermath of the February 28 earthquake in Seattle, architects were at the forefront, providing information and necessary resources.

The magnitude 6.8 earthquake caused less than the initial estimate of $2 billion in damage, according to the Federal Emergency Management Agency. More than 300 people were injured in the earthquake, but there were no confirmed deaths. The low, deep earthquake left widespread but mostly cosmetic damage to buildings, especially apparent in unreinforced masonry structures.

"I think we were extremely lucky," says architect David Clark, AIA, chair of the AIA Seattle Disaster Preparedness and Response Team. "We've been very pleased with how everything worked. This was a huge wake-up call."

When the earthquake hit at 10:55 a.m., Clark was leaving his home—ironically, to attend the second session in a two-day seminar on earthquake preparedness for his team. The session was titled "Awake for the Quake."

Clark's AIA Seattle Disaster Preparedness and Response Team consists of 127 members who are architects, engineers, or contractors. The team has been trained to assess whether structures are safe for occupancy. After the earthquake, the team was contacted by the Ki County Emergency Operations Center, and for two days members were deployed in pairs in neighborhoods near their homes in Seattle and Renton, Wash., in order to assess building dam age, answer questions, and keep residents and business owners informed.

"The AIA Seattle Disaster Preparedness and Response Team responded magnificently, providi information and assistance where most needed," says Marga Rose Hancock, Hon. AIA, executive vi president of AIA Seattle. "AIA EVP/CEO Norman Koonce, FAIA, and members of the AIA national component senior-management team got in touc very quickly and had targeted help on the way fas

President Bush has signed Washington governor Locke's request for federal aid. Ironically, though, the earthquake hit on the same day as the release of the Bush administration's budget, which cuts the $25 million disaster preparedness program "Project Impac Seattle was one of seven cities chosen in 199 for the program, which links community leade to companies interested in lowering the economic repercussions from natural disasters. Th administration's budget overview said the program "has not proven effective." According to the *Seattle Times*, U.S. Sen. Patty Murray (D-Wash.) says the program has encouraged municipalities to bring buildings up to code an to plan effectively. That planning, Murray says, may have reduced the damage in Wednesday' earthquake.

Although many municipalities have begun their own preparedness planning, Clark believes that cutting Project Impact will have a negative impact on public awareness of earthquakes. *JEC*





Damage was primarily to parapet walls (above) on an unreinforced masonry structure of the early 1900s that is now an office building. Debris from a damaged parapet wall (right) collapsed an exterior canopy and damaged exterior loading areas on an unreinforced masonry structure that is home to Seattle Chocolates.

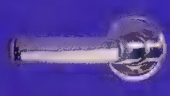


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CIRCLE 21 ON INQUIRY CARD



Visions for Manhattan's west side railyards compete for dollars, attention

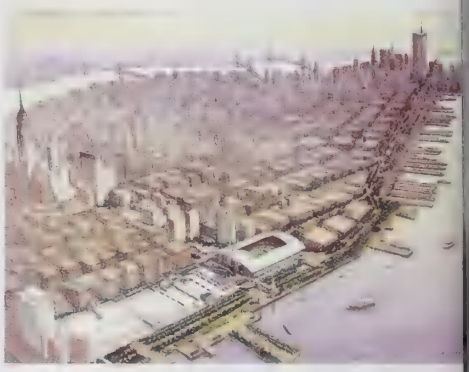
The 1963 demolition of McKim Mead & White's magnificent Pennsylvania Station symbolized the end of the once-grand rail era and the birth of the historic preservation movement. Now that plans are moving ahead with a widely admired replacement by Skidmore Owings & Merrill, the long-moribund area of Manhattan around it has become a hotly contested landscape of competing urban dreams.

A committee that wants to bring the 2012 Olympics to New York envisions the railyards to the west of the station as a site for an 80,000-seat Olympic stadium, tied by an upgraded transit spine to venues in New Jersey and the New York borough of Queens. The New York Jets, an NFL team that has a lease through 2008 in an aging facility in New Jersey, wants to sign on to the stadium plan as a way to bring the team into Manhattan. George Steinbrenner is up in arms, however, since he had long dreamed of moving his Yankees baseball team from its aging Bronx home to a $1 billion stadium on the same site. State officials fear a stadium plan will make it harder to double the size of the Javits Convention Center (to 1.5 million square feet), just to the north of the stadium site. Not to worry, say stadium advocates, the retractable-roof stadium can become an extension of the center. Not so fast, say convention planners, because stadiums don't work well for conventions. Urban designers at Cooper Robertson & Partners have developed a plan for a Jets stadium that could be converted into exhibition space.

The City of New York has its own big ideas for the area. With a lack of new office space, the city would like to place as mu as 30 to 40 million square fe of new development around t station. This is contingent on a massive upzoning and financi of a Penn Station-to-Grand Central transit link that remai after decades, unrealized.

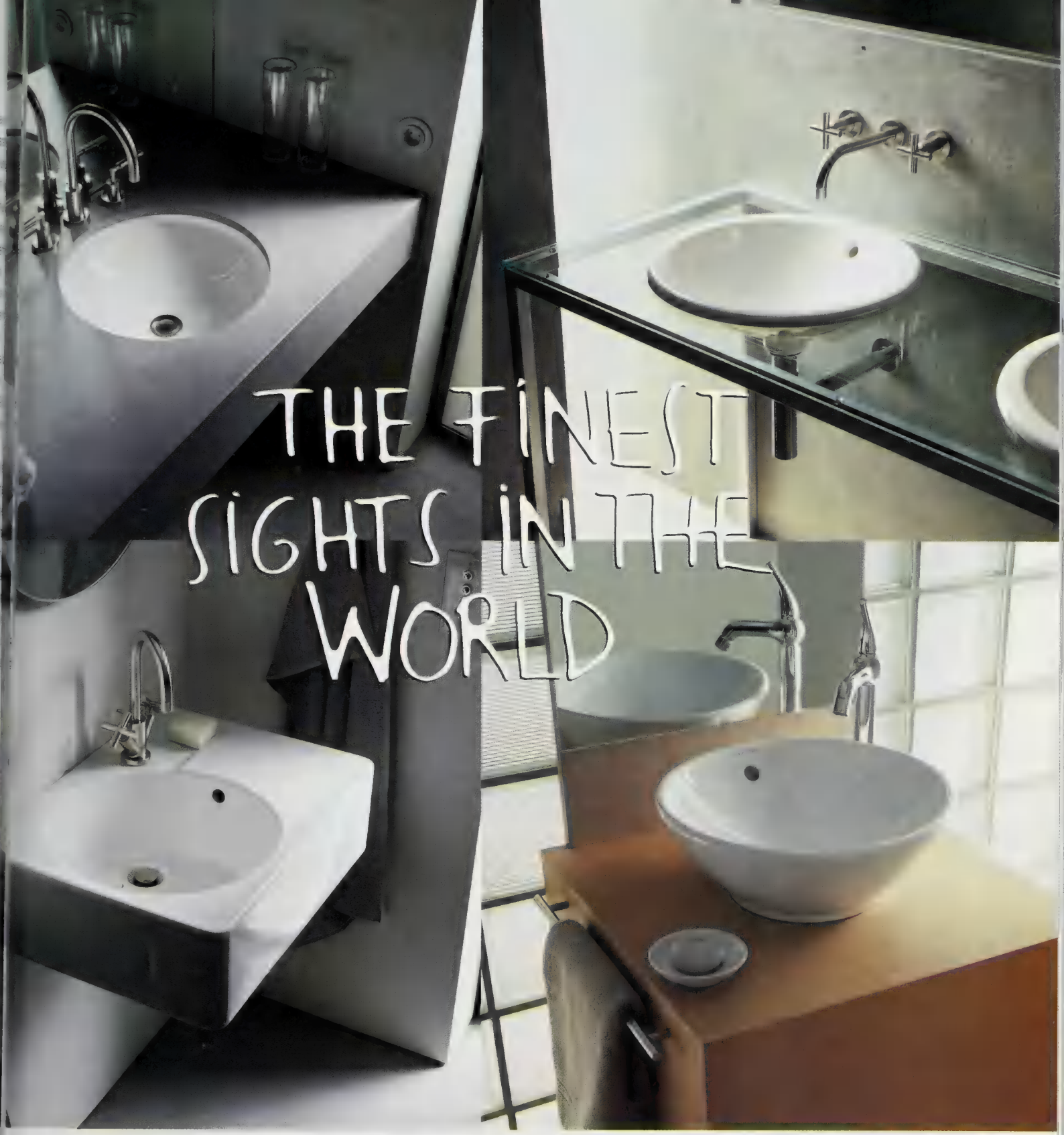
Sitting atop what was on the magnificent departure hall of the old Penn Station is Madison Square Garden, a ca worn, unlovely hockey and basketball arena built in 1968. NBBJ Sports and Entertainme has been hired to design a replacement structure on one various nearby sites to be ma available with new developme

Underneath the arena, 300,000 commute daily spill into the Penn Station hodgepodge of passageways in various states of repair. Amtrak hired HOK to give a futuristic look to its tempora ily spruced-up waiting areas, nearing completio NJ Transit is reconstructing its commuter-rail co course as a $105 million Postmodernist homag to the McKim past. No one appears to be in charge, though, of the public concourses that tie all this together.



A plan by Cooper Robertson & Partners would include a new stadium for the New York Jets and other development near the current railyards.

The project that makes possible much of this planned development may itself be in jeopardy. A recent federal Department of Transportation repor said that the 91-year-old rail tunnels leading to Penn Station require $898 million worth of life-safety improvements, a figure far higher than the cost of the new station. It advises proceeding with the SOM project only in tandem with the tunnel repairs. *James S. Russell, AIA*



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CIRCLE 23 ON INQUIRY CARD

Quigley SROs show affordable housing is possible in Las Vega

For many, downtown Las Vegas conjures an image of billion-dollar mega-resorts drowning in neon and ersatz architecture. In reality, most of the new high-end development has migrated south along the Strip, leaving the old downtown vacant and depressed. Rob Wellington Quigley, FAIA, is hoping to change that.

The San Diego-based architect has partnered with developer Tom Hom to build two single-room-occupancy (SRO) apartment developments in the area—Kirby Lofts and L'Octaine, which are mixed-use projects that combine apartments with retail and restaurant space. Financed through private activity bonds allocated through the city (which enable the developer to receive a 4 percent low-income housing tax credit), the developments are viewed as a way to rejuvenate the area.

Quigley hopes to enhance Las Vegas' urban environment while addressing its harsh climate, and doing it all on a modest budget. "Our work has always addressed the climate and its passive energy concerns," said Quigley. "I find it intriguing to work in a desert climate because the stakes are so much higher."

Las Vegas mayor Oscar Goodman sees the SRO developments as a "real watershed" to redevelopment and housing problems. The target demographic for the SRO renters are single professionals working in the downtown area (i.e., casino workers).

The $6 million, 31,000-square-foot L'Octaine, comically named for its location on Gass Avenue, features 51 units and 4,000 square feet of retail space. The one- and two-bedroom L'Octaine units, as small as 170 square feet, rent for as little as $495 a month, with a $25,680 annual income cap. The building is simple wood frame and stucco construction with a concrete first level, and apartments are arranged around three interlocking gardens. Construction on the three-story structure began in March and will be finished in one year. "L'Octaine will add vitality to the street in a dignified way," says Quigley.

Less than a block away is the $13 million, 30,000-square-foot Kirby Lofts. The four-story wood-and-stucco structure will have 276 loft-style units with street-level retail space. Rooms will rent for $562 per month, with a $22,500 annual salary cap. Irreverently named after a vacuum cleaner, Kirby Lofts on Hoover Avenue are scheduled for completion in May 2002.

Quigley and Hom initially collaborated on the $12 million, 82,760-square-foot Campaige Place SRO, completed in February 2000, also in downtown Las Vegas. The four-story, 320-unit building was a welcome addition to the neighborhood, prompting Quigley and Hom to develop L'Octaine and Kirby Lofts. Campaige Place averaged a 75 percent occupancy rate last year with $500 rents. *Tony Illia*





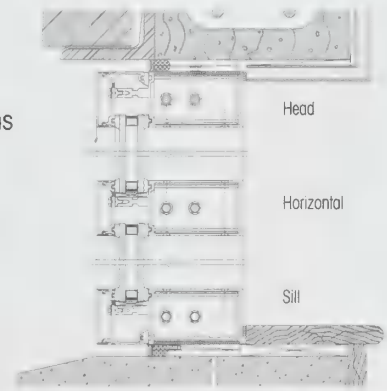
Kirby Lofts (top) and L'Octaine (above) are two SRO apartment developments in Las Vegas by Rob Wellington Quigley.



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CIRCLE 24 ON INQUIRY CARD

News Briefs

McHarg, author of Design with Nature, dies Ian McHarg, a pioneering landscape architect, planner, author, and professor emeritus at the University of Pennsylvania, died March 5 at age 80.

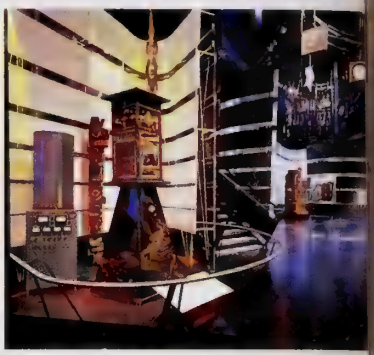
McHarg actively advocated the philosophy that no building project should take place without an intensive study into that project's compatibility with the natural aspects of its site. He founded the University of Pennsylvania's department of landscape architecture and regional planning, serving as its head for three decades. His most enduring work, however, may be his 1969 book, *Design with Nature*, which the critic Lewis Mumford compared to the environmentalist works of Rachel Carson and Henry David Thoreau. The celebration of Earth Day came about, in part, because of McHarg's ideas. Last year, McHarg was awarded the prestigious Japan Prize for urban planning. *Kevin Lerner*



McHarg

Bill introduced for better schools America's Better Classroom Act of 2001, a $25.2 billion bill for new school construction and renovation, was introduced in Congress on March 14. AIA President John D. Anderson, FAIA, joined Rep. Charles Rangel (D-N.Y.), and Rep. Nancy Johnson (R-Conn.) in urging Congress to pass the bill. Anderson said, "The bipartisan Johnson-Rangel measure allows the use of tax-credit bonds that emphasize federal support rather than federal control over local school districts requesting assistance."

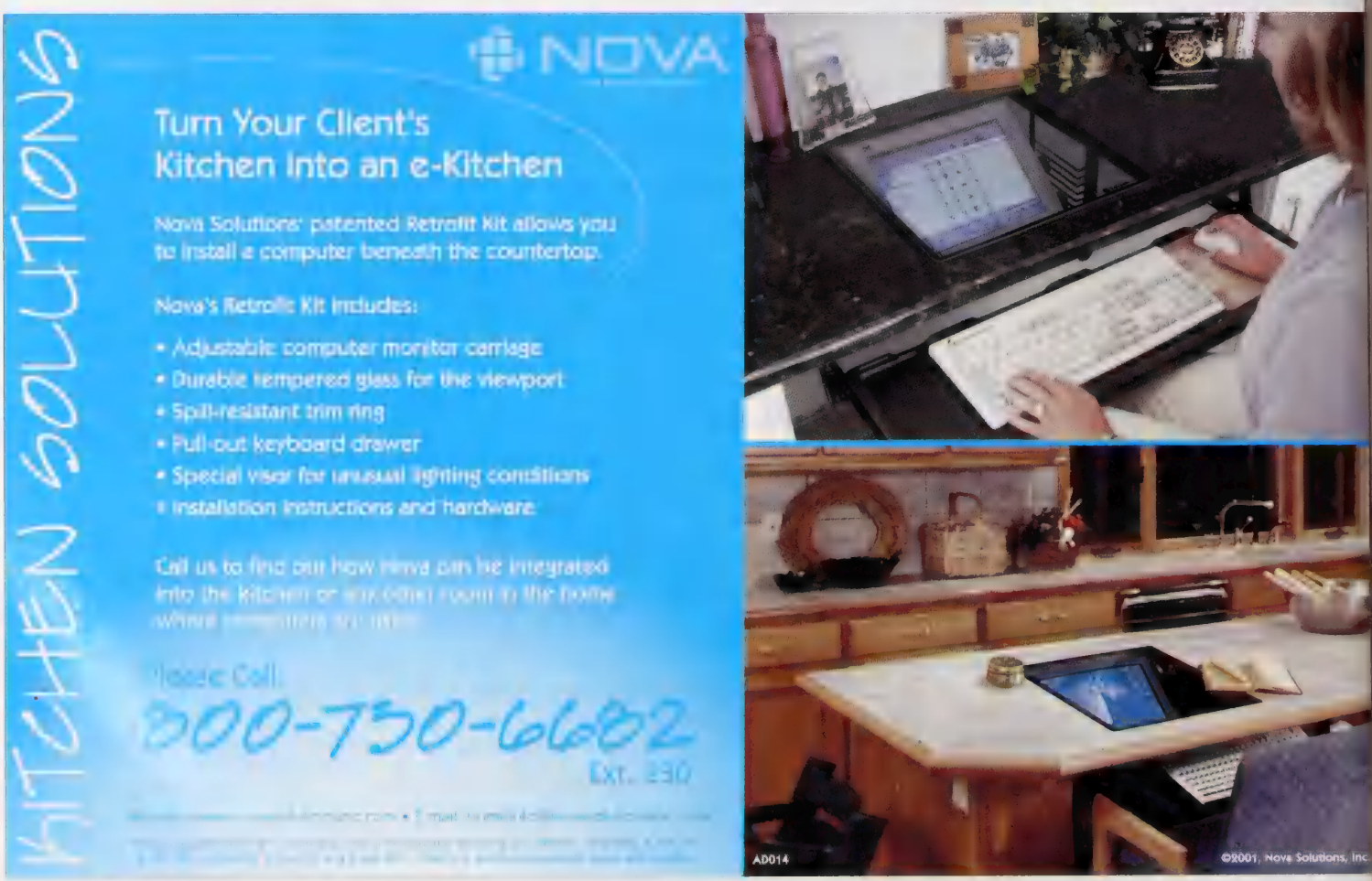




Light and dark curving walls provide a dramatic backdrop for the *Time* exhibi

Gehry at Guggenheim A full-museum retrospective of the work of Frank Gehry will be held at the Guggenheim Museum in New York City from May 18 to August 26. *Frank Gehry, Architect* will trace his career and the work of his firm, Frank O. Gehry & Associates, with photographs, drawings, models, furniture, video footage, and the installation itself. The installation will include a major "architectural intervention" in Wright's rotunda.

Garofalo finds Time Chicago architect Doug Garofalo, featured in RECORD's Design Vanguard issu [DECEMBER 2000, page 82], designed the *Time* exhibition at Chicago's Museum of Science and Industry. A permanent exhibit, *Time* includes more than 450 timepieces that span 3,000 years and were acquired from the National Time Museum. Garofalo's design—with dramatically lit, swirling walls that are white on one side and black on the other—makes the timepieces appear to float through space. Viewed from two levels and two sides, the exhibition alludes to the fluidity and elusiveness of time.



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CIRCLE 26 ON INQUIRY CARD

Photo by Louis Rohl - Sienna, Tuscany Italy

News Briefs

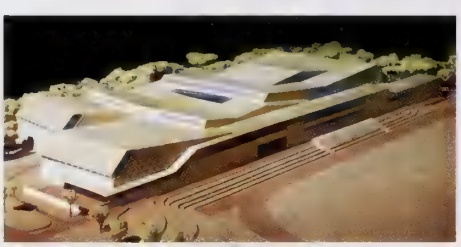
Foster hired by Hearst for New York building The Hearst Corporation has hired British architect Lord Norman Foster to design an addition to the Hearst Magazine Building on Eighth Avenue at 57th Street in New York City. This will be Foster's first building in New York. The Hearst Magazine Building is a six-story 1926 structure by Joseph Urban that was intended to be the base for a much taller building. Only six floors were constructed with the onset of the Depression and World War II. The exact size, time frame, and cost of the building expansion have not been made public.



Piano

Piano receives Wexner Prize Renzo Piano has been named recipient of the ninth Wexner Prize; it was the first time that the $50,000 prize, conferred by the Wexner Center for the Arts in Columbus, Ohio, was awarded to an architect. Piano will give a public lecture at the Wexner Center on April 19 and will receive the award in a private ceremony April 20. Past Wexner Prize recipients include composer John Cage, filmmaker Martin Scorsese, and visual artist Robert Rauschenberg.

Cannon learns from Maybeck for Principia Cannon Design of St. Louis has completed conceptual design for a sports and recreation building at Principia College, a school of 550 Christian Scientist students in Elsah, Ill. The original campus was designed by Bernard Maybeck, and Cannon's building takes visual cues from his work, especially his painterly approach to the design of facades. Clerestory windows—as well as a palette of materials including concrete, brick, and metal tile in different colors—relate the building to Maybeck's structures.



Cannon's recreation building at Principia.



The Lincoln Presidential Library and Museum

Construction begins on Lincoln Presidential Library and Museum by HOK Ground was broken February 12 for the new Abraham Lincoln Presidential Library and Museum, designed by Hellmuth, Obata + Kassabaum (HOK), in downtown Springfield, Ill. The four-story, 100,000-square-foot library will open in October 2002, and the 100,000-square-foot museum will open in November 2003. The library replaces an existing library in the basement of the Old State Capitol building.

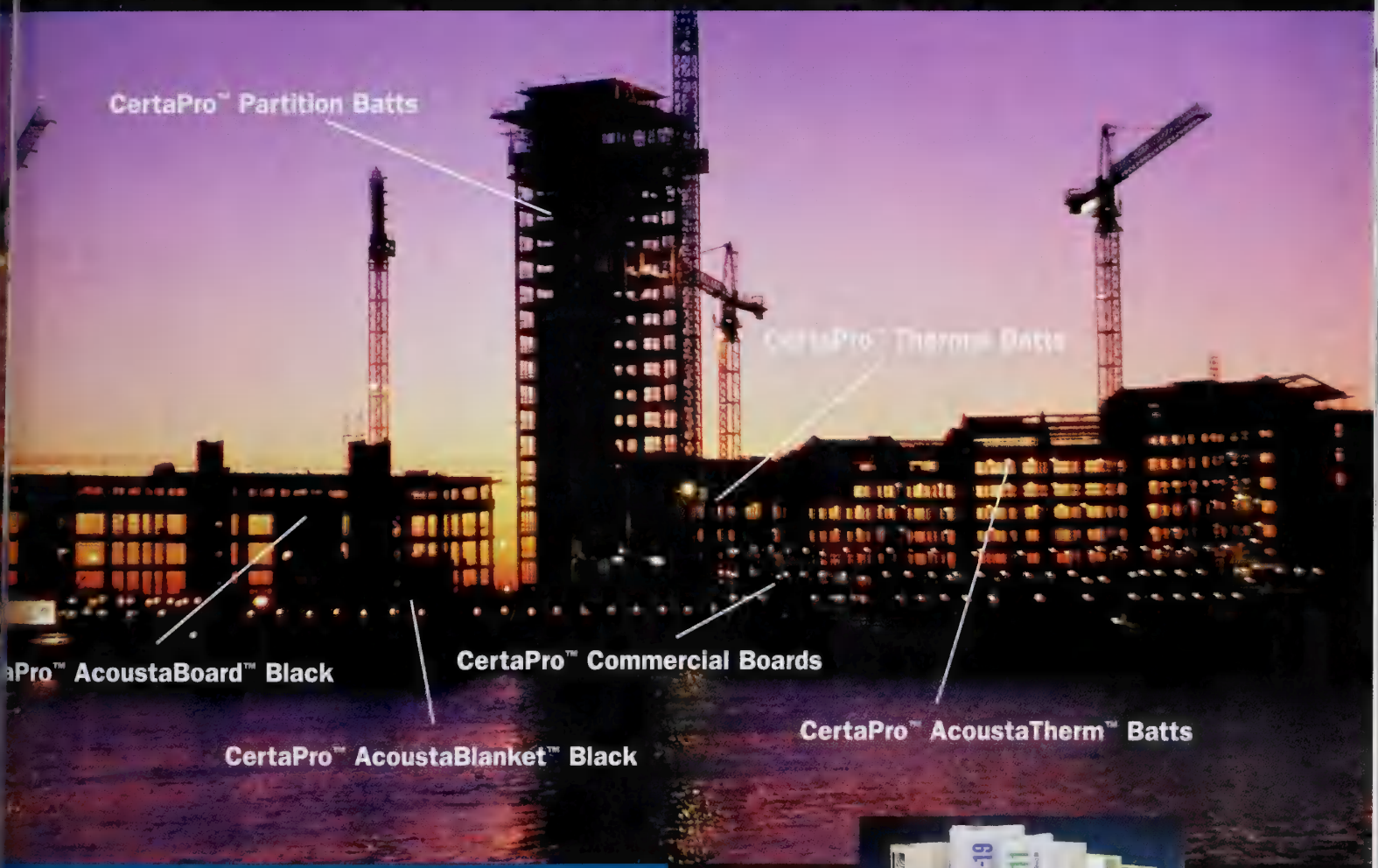
U.S. Postal Service stops all planned construction Citing a large deficit, the U.S. Postal Service announced on March 8 a moratorium, to last indefinitely, on all new construction projects. The freeze stops nearly all 80 projects, worth about $400 million, that were not under contract by February 22. All projects under way will continue. The USPS may lose $2 billion to $3 billion in 2001.



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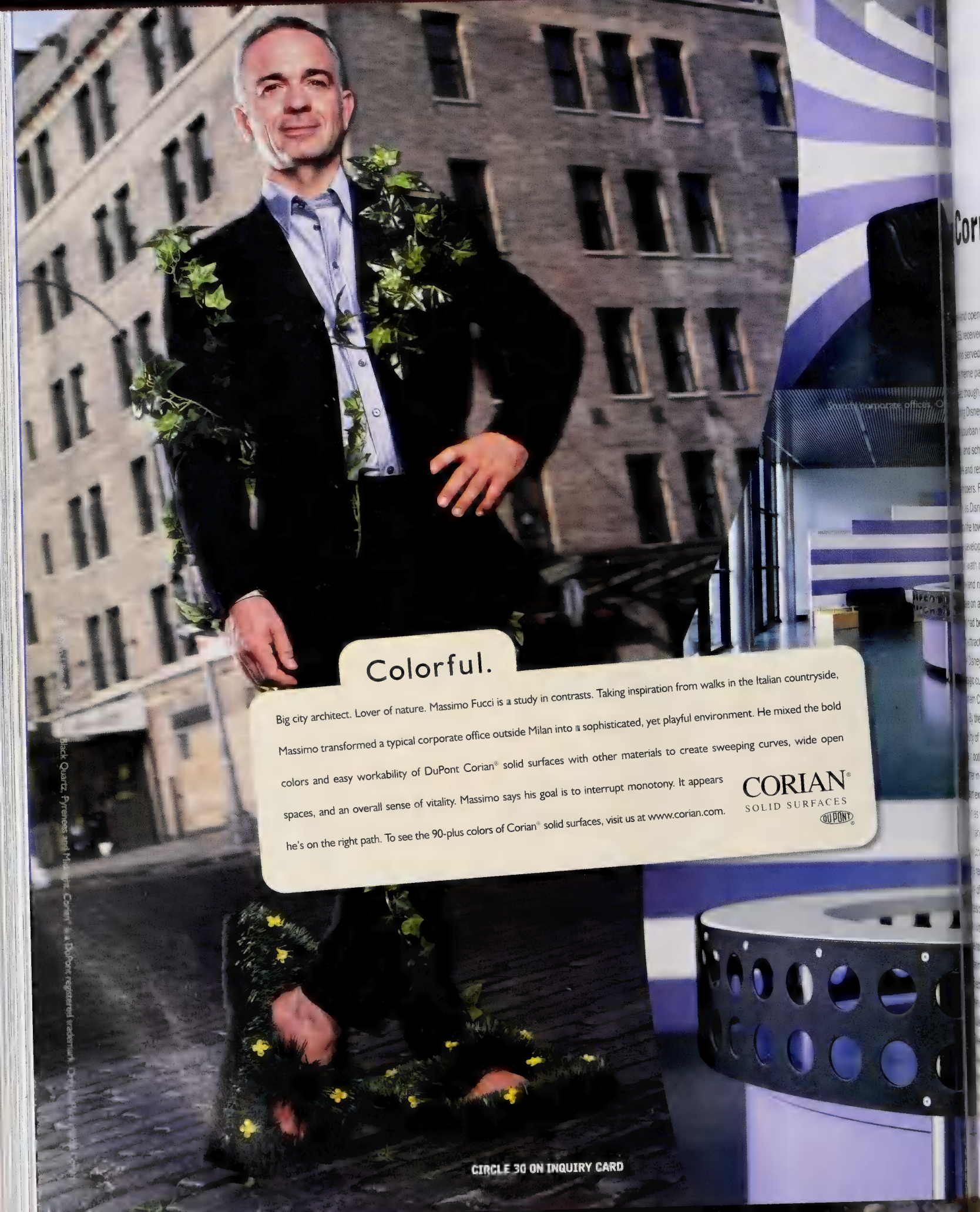
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CIRCLE 30 ON INQUIRY CARD

Disney strengthens Anaheim presence with planning and pixie dust

Correspondent's File

By John E. Czarnecki, Assoc. AIA

sneyland opened to great fanfare 1955, received worldwide atten- n, and served as a model for ure theme parks. As decades ssed, though, orange groves sur- unding Disneyland were replaced th suburban ranch houses, strip alls, and schlock—themed otels and restaurants catering to y-trippers. For more than 40 ars, as Disney built Disney World, cot, the town of Celebration, and her developments on a much ger swath of land in central Florida, sneyland never changed—it aged place on a limited site. Disney orld had become a multi-day, ulti-attraction destination resort, hile Disneyland had become a stalgic curiosity in burgeoning outhern California.

By the 1990s, both Disney and e City of Anaheim realized that it as in both of their interests to artner in an ambitious Disneyland esort expansion and enhance- ent, as well as an expansion to e Anaheim Convention Center by ellmuth Obata Kassabaum (HOK) nd a renovation for Edison Field, ome of the Disney-owned Anaheim ngels baseball team. The expan- on within the Disneyland Resort as completed this year with the ening of California Adventure, a 5-acre, $1.4 billion theme park, on hat was surface parking adjacent Disneyland. The complex—with isneyland, California Adventure, owntown Disney, the Disneyland otel, Disneyland Pacific Hotel, and e new Grand Californian Hotel— reates a commanding Disney resence in Anaheim.

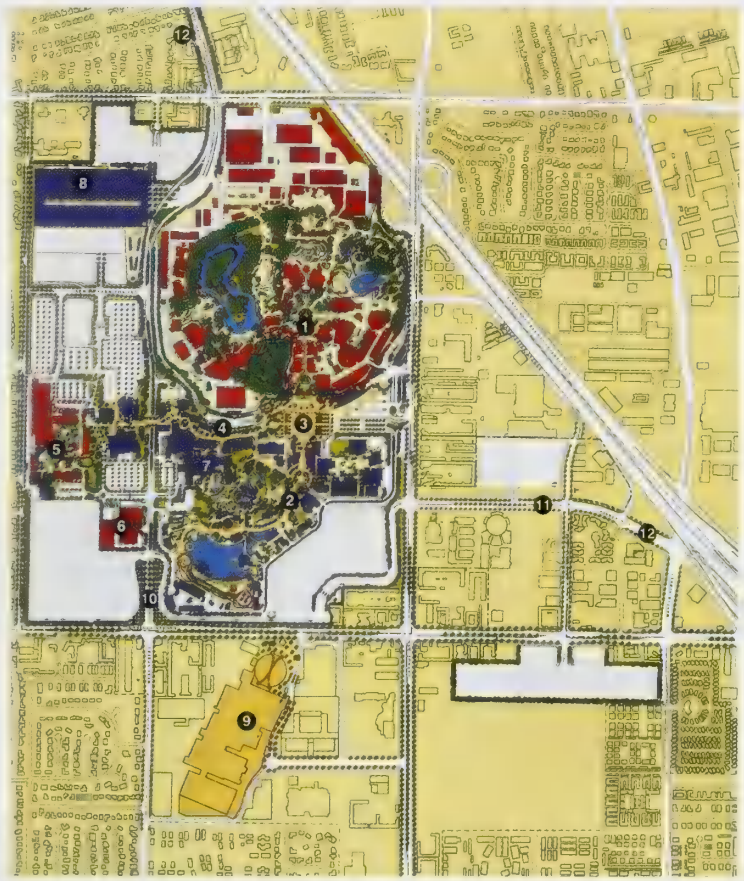
Evolving theme parks

For decades, Disney developed thousands of acres of theme amusements in central Florida. When Epcot opened in Orlando in 1982, Disney realized that a different model of tourist development was possible: a longer stay for visitors coming not only from the region but from other countries as well.

In Anaheim, Disney examined possibilities of expanding Disneyland in the 1980s, but nothing came of those efforts. Discussions between Anaheim and Disney continued in the early 1990s, though, and a comprehensive public-private partnership was formed between the suburban city and the entertainment giant. "In the last 10 years, there was a recognition that the status quo was not acceptable," says Tom Wood, assistant city manager for Anaheim. "Our objective [was] to be the preferred tourist destination in Southern California."

Plans guide "garden oasis"

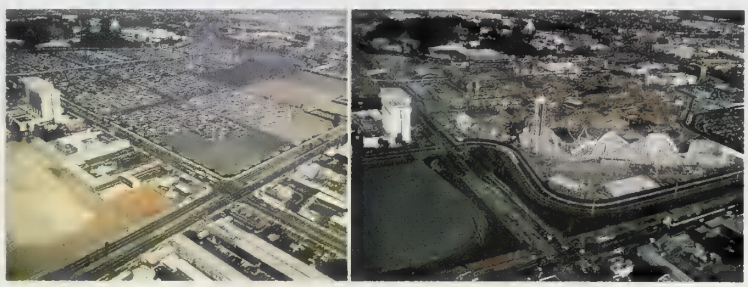
Anaheim developed two plans in the early 1990s to guide the development of the nearly 1,100 acres surrounding and including Disneyland into what was intended to be a "garden oasis." Both plans include more than $4 billion in development, making this one of the world's largest public works/private development projects. The Disneyland Resort-Specific Plan covers 490 acres within the Disneyland Resort, and the Anaheim Resort-Specific Plan covers 550 acres immediately outside the district. The Anaheim Resort-Specific Plan provides



1. *Disneyland*
2. *California Adventure*
3. *Entrance plaza*
4. *Downtown Disney*
5. *Disneyland Hotel*
6. *Disneyland Pacific*
7. *Grand Californian Hotel*
8. *Parking structure*
9. *Convention center*
10. *Disneyland Drive*
11. *Disneyland Way*
12. *New freeway access*

2001 buildings

existing buildings



Disney's California Adventure (right photo) was built on what was formerly surface parking (left) for Disneyland (background in both photos).

guidelines for future development in terms of building size, massing, and setbacks, as well as infrastructure guidelines for redesigned roads and streetscaping.

SWA Group of Laguna Beach, Calif., completed extensive landscaping along existing boulevards surrounding and leading to Disneyland. "We felt this place needed some kind of identity," says Bob Jacob, principal with SWA Group. "We had to create a landscape that was compelling and economical, consistent, and that provided a sense of being in a resort that was California-specific."

The landscape, Jacob says, also had to have a civic scale and a bold character, and it had to allow for easy identification of the streets. While the tall palm trees on Katella Avenue provide a forest of columns, the widespreading tipu trees on Harbor Boulevard will, in time, create a canopy copy over that street. "We wanted to orient people so they knew where they were, based on layers of landscape," Jacob says. "People are amazed at the transformation, and the thing about landscape is that it only gets better over time."

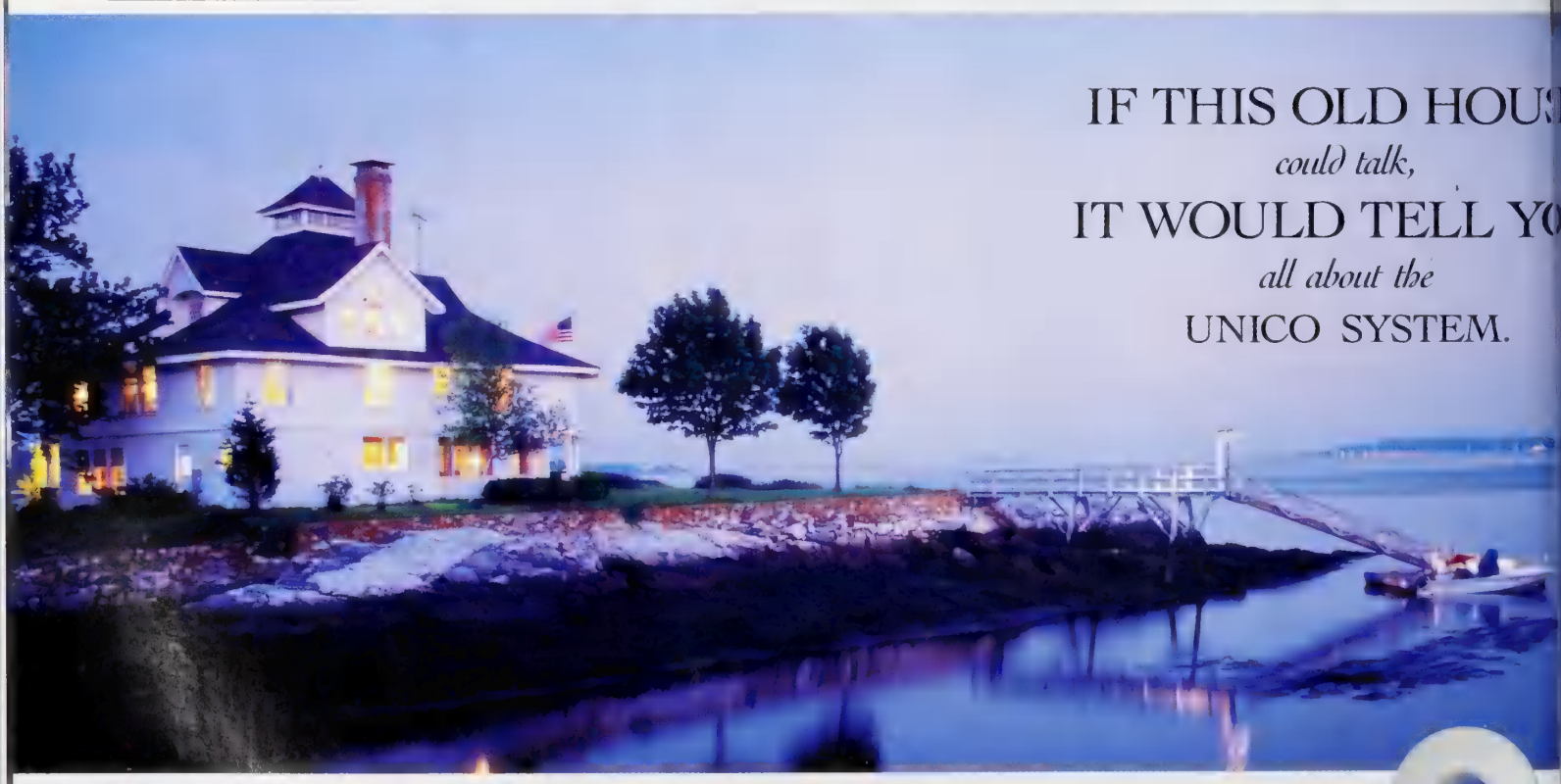
An urban downtown?

Within the Disneyland Resort, design of the California Adventure park and Downtown Disney was led by Disney's Imagineers, based on a master plan developed by Jacquelin Robertson, FAIA, of Cooper Robertson & Partners. Entrances to California Adventure and Disneyland face each other on a pedestrian plaza that is connected to Downtown Disney, a district of shops and restaurants. Linking the theme park entrances to parking and the Disneyland Hotel, Downtown Disney is similar to Universal CityWalk at





Extensive streetscaping by SWA Group changed the character of Harbor Boulevard (top), with wildflowers, tipu trees, and palm trees (above).



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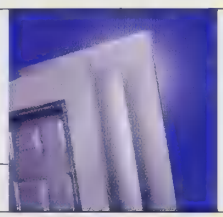
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nearby Universal Studios. Downtown Disney restaurants include House of Blues and Ralph Brennan's Jazz Kitchen.

In a way, Downtown Disney is the biggest gamble here for Disney. It's intended to be a "real" urban experience, an entry plaza to the theme parks, and a focal point for tourists and nearby residents alike. To be sure, more than a few exteriors of Downtown Disney components by Elkus/Manfredi Architects help to create a varied and humane pedestrian realm. The overall effect, however, is not a real downtown—it's forced. But in the midst of the mundane suburban landscape of Anaheim, it may be the only semblance of downtown that residents can have.

Hotel upgrades

For the City of Anaheim, the Disneyland Resort development is an economic boon. According to Wood, 1,500 hotel rooms have recently been built or are currently under construction, including the recently completed 751-room Grand Californian. Five thousand more rooms will be built in the next five years.

A number of existing hotels have undergone major interior and exterior renovations, including the original Disneyland Hotel, where Disney added "pixie dust," according to Wing T. Chao, executive vice president for master planning, architecture, and design for Walt Disney Imagineering. No major architectural feat, but guest rooms received a major upgrade, and fresh paint spruces up the once-drab exterior of the hotel's towers.

Across Disneyland Drive from the Disneyland Hotel is the new Grand Californian Hotel—Disney's first ever in-park hotel with a direct entrance to California Adventure. Designed by Urban Design Group of Denver with interiors by Brayton-Hughes of San Francisco, the Grand Californian is based on Arts & Crafts architecture prevalent in California at the turn of the last century. Interior spaces and guest rooms are reminiscent of the Arts & Crafts work of Greene and Greene, but the heavy timbers are not really timbers and the stone fireplace is not necessarily built with boulders.

Bumpy ride or smooth sailing?

Whether the enhanced Disneyland Resort will be as successful as Disney's Florida ventures remain to be seen. At California Adventure, the opening-day crowd was not nearly as large as Disney expected, but it was early February. In the context of a jittery economy and a California energy crisis, though, Disney's first California adventure could be a bumpy ride. ■



Urban Design Group's Grand Californian Hotel is based on Arts & Crafts desi











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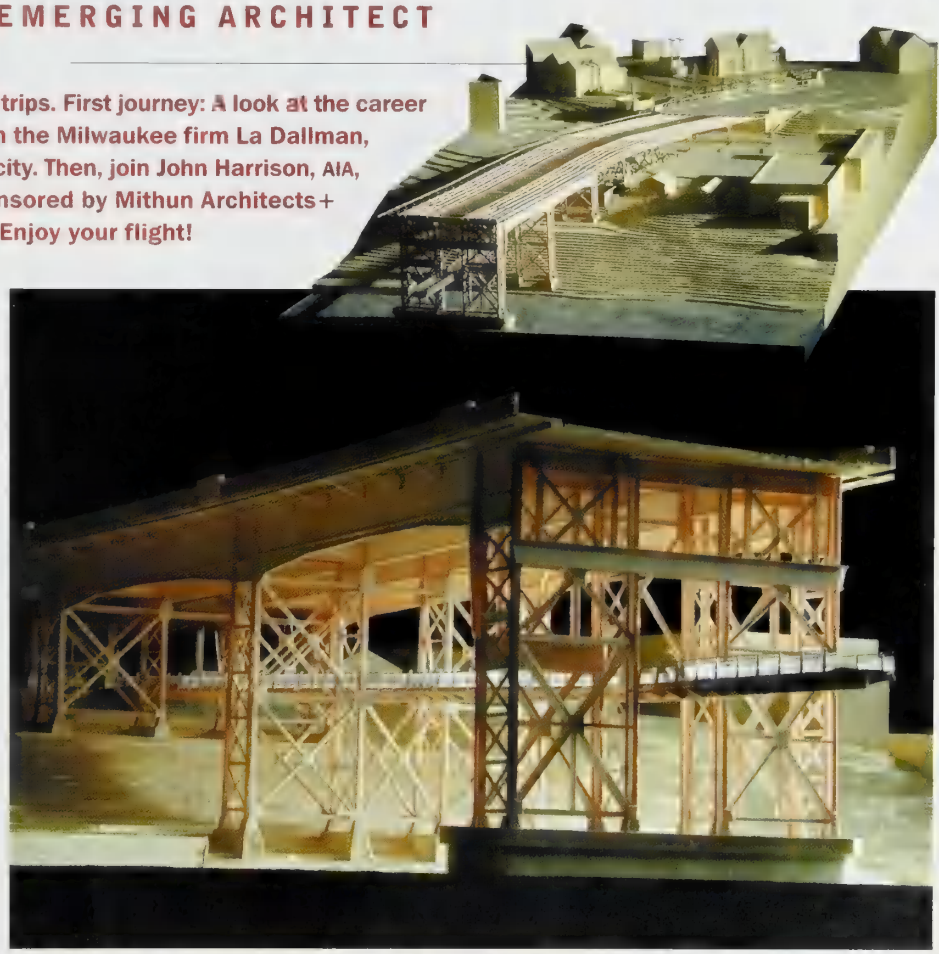
CIRCLE 35 ON INQUIRY CARD

For and about the new generation of architects

a r c h r e c o r d 2

FOR THE EMERGING ARCHITECT

is month's archrecord2 takes you on a couple of trips. First journey: A look at the career aths of Grace La and James Dallman, partners in the Milwaukee firm La Dallman, see why their designs are turning heads in the city. Then, join John Harrison, AIA, s he describes a tour of Potsdam, Germany, sponsored by Mithun Architects+ esigners+Planners, where he is an associate. Enjoy your flight!



DESIGN

rofile: Transplants of smart design



People are talking about architecture in Milwaukee. To be sure, the soon-to-open addition to the Milwaukee Art Museum (MAM) by Santiago Calatrava has more than helped bring attention to good design. But while some in he city are banking on the MAM addition to be the next uggenheim Bilbao or Sydney Opera House, the work of a ouple fairly new to the city, Grace La and James Dallman, as broadened the discourse and opened a few eyes.

Milwaukeeans, especially well-established architects the city, are taking notice of the widely varied projects of he husband-and-wife firm La Dallman Architects. Why? race and James moved to the city from Boston less than wo years ago, and in that time they have received commissions for a pedestrian bridge (right), a pavilion for an environmental education center, a few houses for local philanthropists, a 30-story condominium tower, and exterior improvement to the city's Harry Weese-esigned performing arts center. All this work for a couple that readily admit hat they are not good at selling themselves. "We don't fancy ourselves as great narketers," says La. "I attribute the commissions we've received to people who were looking for architects who could produce a high level of design."

La and Dallman learned how to create that high level of design while tudying at the Harvard Graduate School of Design (GSD), where they met in the arly 1990s. Dallman, a native of Milwaukee, came to Harvard with a bachelor's legree in architecture from the University of Wisconsin—Milwaukee (UWM) and experience in Chicago with Stanley Tigerman and Margaret McCurry. La moved 3 times while growing up but had lived in Boston since age 14. She earned a achelor of arts degree from Harvard in three years and immediately entered SD. They worked together at Kohn Pedersen Fox's London office in summer 992 and quickly formed a bond in which architecture was central to their lives. "It's really quite difficult to identify the moment we started to work together," La says, "because it was so much a part of our initial relationship."



Pedestrian Bridge under Viaduct, Milwaukee, 2002
La Dallman Architects, with Crisman + Petrus Architects, has designed a pedestrian bridge (top and middle) that would be slung below an aging viaduct over the Milwaukee River and a nearby bus shelter (above).

continued from previous page **Upon graduating from GSD, Dallman worked for nearly two years for Atelier Pichelmann in Vienna, Austria, and returned to Boston to work for Peter Rose for five years. With Rose, Dallman was project architect on a residence in Stowe, Vt., [RECORD HOUSES, APRIL 1998, page 116], and Brookside School at Cranbrook. La collaborated for a short time with Jonathan Levi, her thesis adviser and mentor, before joining Perry Dean Rogers & Partners. Shortly after turning 27, La became the youngest person to be named an associate in the nearly 80-year history of Perry Dean Rogers.**

La and Dallman married five years ago, started on their own with small side projects, including furniture design, while keeping their day jobs with other firms. La was teaching as an adjunct at Roger Williams University when, in 1999, she accepted a teaching position at UWM that brought the couple to Milwaukee, the city Dallman had left 13 years before. They've built a practice with a five-person staff since fall 1999, and it is generating buzz in Milwaukee.

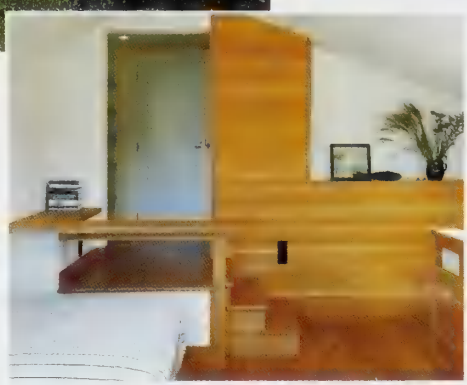
What sets this firm apart from the others in the city? Perhaps Dallman has the answer: "We're interested in understanding site conditions and experiential qualities of a place—to find qualities that we can bring out of these conditions rather than impose some strategy." *John E. Czarnecki, Assoc. AIA*

Go to architecturalrecord.com/archrecord2 for more on La Dallman Architects and their work, and to submit your own projects.



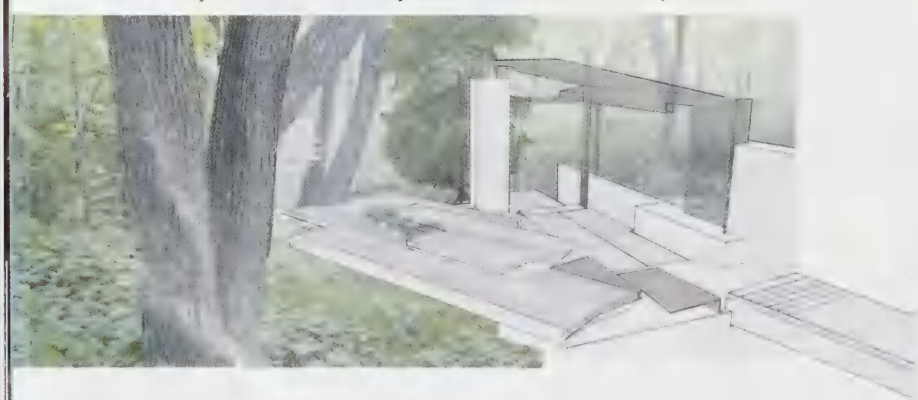
Kilbourn Tower, Milwaukee, 2003
La Dallman Architects, with TDI Associates, won a competition for a 30-story, $60 million condominium tower. Construction on the slender tower with 59 units begins in 2002.





Residential Addition, Martha's Vineyard, Mass., 2001
For a bedroom-and-office addition, La Dallman Architects used crisp Douglas fir interior detailing while embracing Cape Cod vernacular on the exterior.

Schlitz Audubon Center Viewing Pavilion, Bayside, Wis., 2002
Sited within a ravine, this pavilion, which La Dallman Architects calls "an aperture in the landscape," allows controlled views of nature.



WORK

Forge a career and get ahead

Task force calls for continuum of learning

The distinctions between architectural education and practice should converge in one continuum of learning. This is the underlying belief in a Collateral Internship Task Force (CITF) report—a framework for reconceptualizing the transition from education to practice, presented to the presidents of the five collateral organizations in architecture earlier this year. Two of the most striking objectives in the report, and the cause for concern for at least a couple of the collaterals, are (1) that the Architect Registration Examination (ARE) should be permitted upon graduation and (2) that the appropriate title of a person with an accredited degree in architecture, even if he or she pursues another career path and does not become licensed, should be "architect."

The CITF was formed after an April 1999 Collateral Internship Summit [MAY 1999, page 99] that convened members of each of the collateral organizations: American Institute of Architects (AIA), American Institute of Architecture Students (AIAS), Association of Collegiate Schools of Architecture (ACSA), National Architectural Accrediting Board (NAAB), and National Council of Architectural Registration Boards (NCARB). After the summit, the CITF defined

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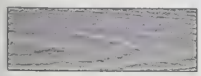
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LIVE

The ArchitecTourist: Potsdam

Mithun Architects+Designers+Planners in Seattle has developed many long-standing traditions including a biannual study trip. It pays the cost of travel and expenses for each of its associates, principals, and support staff with seven or more years of service to travel and visit a place where they can experience architecture, planning, and design. Spouses and sometimes even children have participated in these excursions.

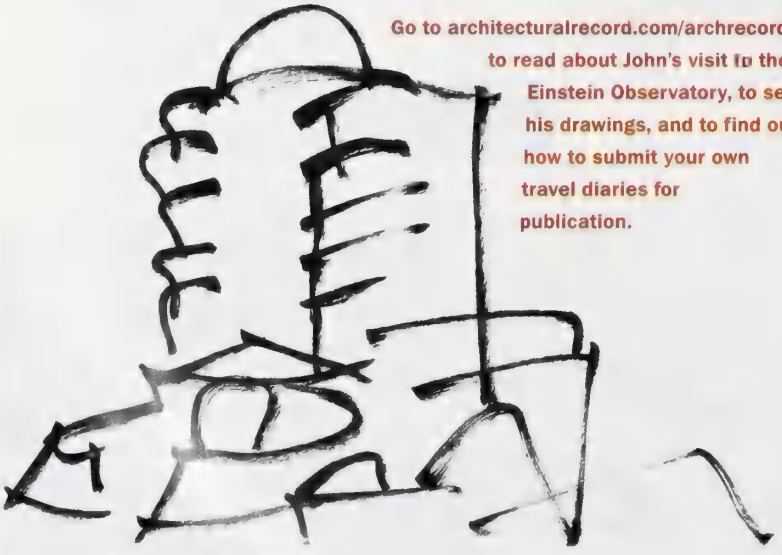


Seattle architect John Harrison, AIA

The trip is a time for architectural discovery, cultural enlightenment, and the fostering of friendships among colleagues. Past destinations include England, Japan, France, and Spain. Participants travel in one of three separate groups with developed agendas for study. As part of the employee's obligation for the trip, slides, sketches, and a journal must be delivered to the firm. The firm assembles this information and publishes a book, which becomes a collection of the memories of, and reflections on, the places visited by the group.

On a tour of Berlin in fall 1999, our group made a day trip to Potsdam. Little did I know that the trip would culminate in an unforgettable encounter with a modern architectural masterpiece. Potsdam is an eclectic escape approximately 20 miles from Berlin on the Havel River; its landscape is marked by buildings influence by France, Italy, Holland, and England, as well as the influence of Russian military occupation. Although a sense of Eastern isolation still lingers, the city's diverse past has left it with grand parks, squares, and neighborhoods.

The main focus of our tour was Frederick the Great's summer place, Sans Souci. Perched atop an elegantly terraced hill, it is famous for housing artists and scholars, among them the philosopher Voltaire, in the mid-1700s. The fountains, gardens, and grounds are quite beautiful, but the palace itself was less than awe-inspiring. The day trip had been pleasant but not in any way remarkable, and I planned to make my way back to Berlin to join the rest of the group for the evening. Only the prodding of a colleague convinced me to take the time to visit Erich Mendelsohn's Einstein Observatory. I was glad I did . . . *John Harrison, AIA*



Go to architecturalrecord.com/archrecord2 to read about John's visit to the Einstein Observatory, to see his drawings, and to find out how to submit your own travel diaries for publication.

continued from previous page nine goals and objectives and recommended possible implementation strategies in its report. The presidents of the five collaterals accepted but did not endorse the report in its last meeting, and will meet again June 8.

The CITF report goals, each with an objective and implementation strategy, are: (1) accessibility into the profession should be broadened, (2) practice should be integrated into education, (3) education should be integrated into practice, (4) every candidate for registration should have a professional degree from a program accredited by NAAB or the Canadian Architectural Certification Board or equivalent, (5) alternative paths for obtaining professional experience leading to registration should be accepted, (6) examination should be permitted upon graduation, (7) continuous learning and mentorship are fundamental to the profession, (8) national and international reciprocity should be strengthened, and (9) architecture graduates should be recognized for their knowledge and abilities (i.e., they should be titled "architect").

The task force stressed that, although concerns may be raised regarding some implementation strategies, such as those under goals (6) and (9), each of the first eight goals would have to be achieved (i.e., education and practice integrated) before goal (9) could be fully implemented. *JEC*

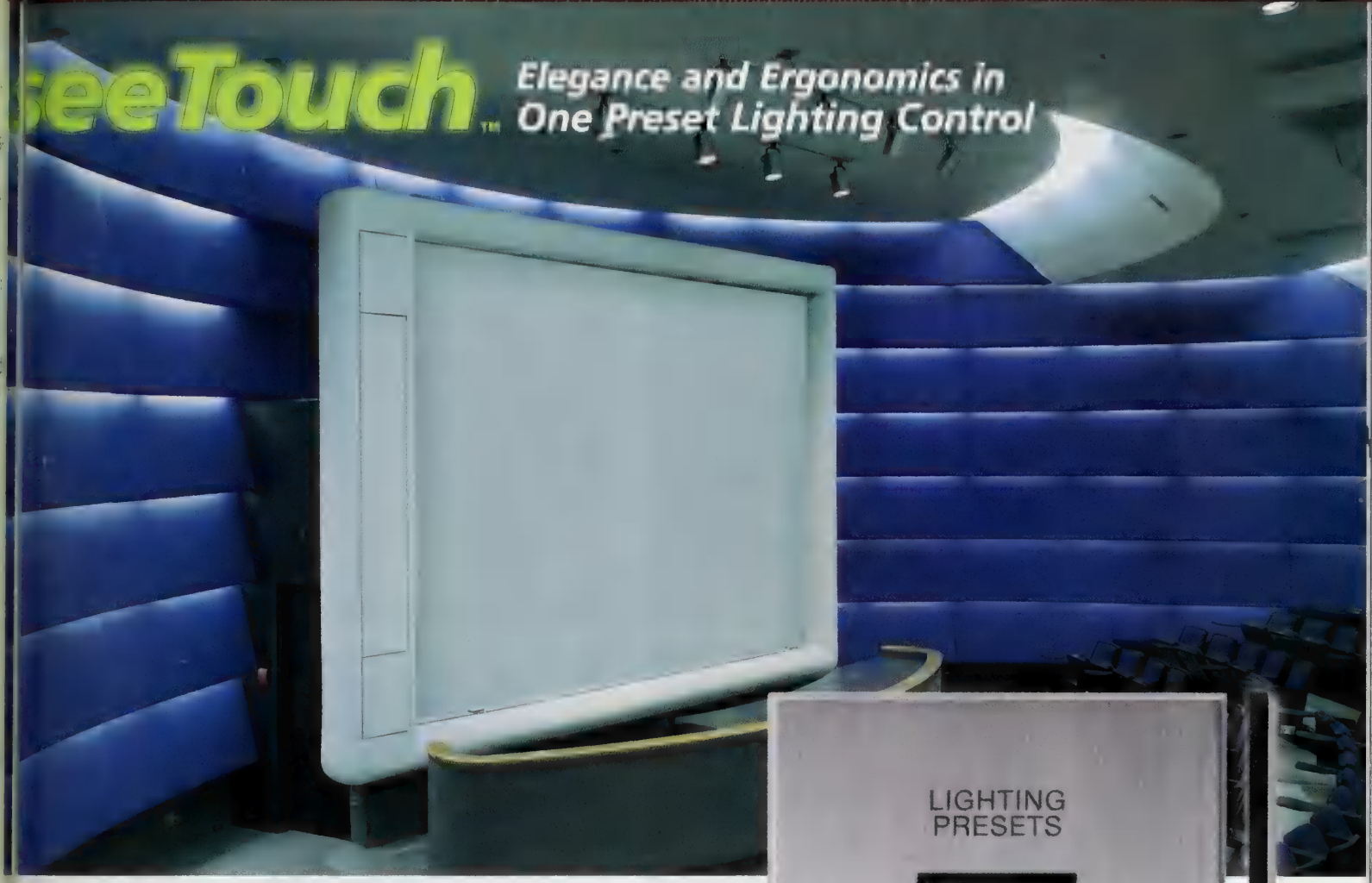
For more on the Collateral Internship Task Force report, including full report text and reaction of each collateral organization, visit architecturalrecord.com/archrecord2

TALK

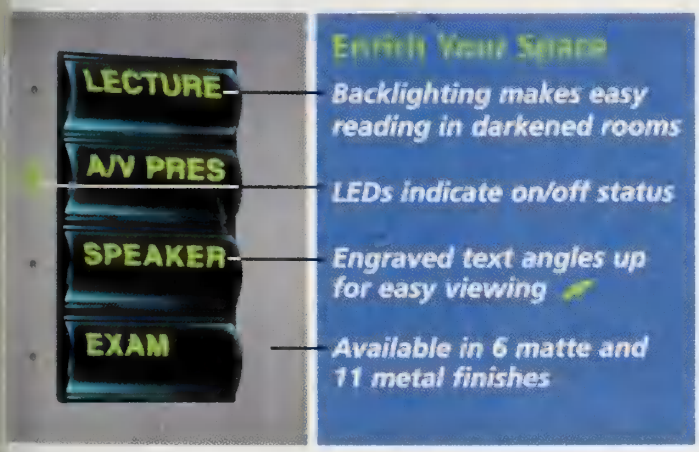
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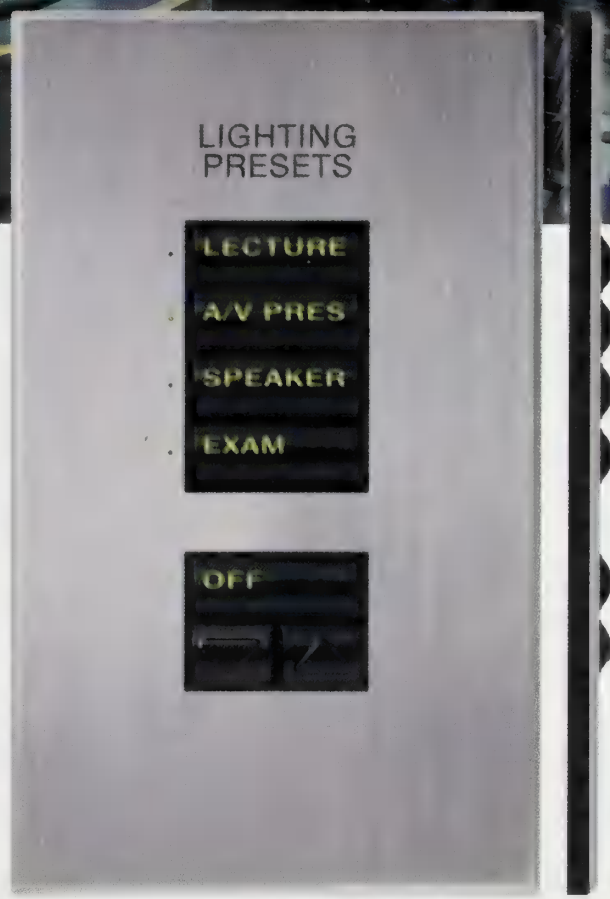
The response to last month's question about what to call unlicensed architecture graduates was phenomenal. Check out the responses in the Talk section of the site. The feature has proven so popular that we're going to be updating the question every two weeks, while keeping all the old forums open. Look for a new question the first and third weeks of every month. While you're there, spend some time reminiscing with this one: What—or who—inspired you to become an architect?

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CIRCLE 38 ON INQUIRY CARD

Fashion and the cultural fabric of architecture

Critique

By Ulrich Lehmann

review in this magazine [OCTOBER 000, page 71] of *10 x 10: 10 rators/Critics, 100 Architects* marked that some of the young chitects included in the book "will obably fade as quickly as last sea- n's hemline." Tendencies or styles at are judged to be ephemeral, d thus insignificant, are often pressed through a gibe at cloth- g, and this indicates the degree of ejudice and preconception that shion arouses among many in the chitectural community.

Nowadays, fashion is not con- erned as much with changing skirt ngths as the construction of gar- ents and, especially over the last ecade, with their deconstruction. ashion focuses on structural inves- gations of lining, shoulder pads, arts, and seams to expose an nderlying construction and arrive t new shapes that define the body nd our posture and demeanor.

Clothing is not just determined y fads and ever-changing styles. In s fundamental motifs, it exists to rovide an intimate environment for he body—to protect, cover, and dorn. Which, of course, is architec- ure's principal task as well. In the ame way in which early man hipped away at his cave to provide nore space and comfort, he first ut, draped, and fastened furs and oven plant fibers to construct a over from the elements.

Ulrich Lehmann is a cultural historian based in London. His book, Tigersprung: Fashion in Modernity, *was recently published by MIT Press.*

If our corporeal and built environments originated and developed in tandem, why have the two casings, fashion and architecture, become so estranged from each other? When we equate hemline length with something insubstantial, we are saying principally two things: First, that we regard rapid and continuing change as suspicious and detrimental for cultural and perhaps intellectual development. Second, the fascination with adornment and decoration, which is associated with the female sex in particular, is a frivolous waste of resources.

Erratic and enigmatic

But the development of Western culture has always relied on progression and innovation, by no means planned, linear, or straightforward. Erratic and enigmatic changes often herald the start of new things. Apparently arbitrary and nonsensical shifts in the shape of garments reflect fundamental changes in manners and morals just as the development of new construction materials influences the built representations of a society. If rapid or repeated change is perceived by architects as insubstantial and dangerous, it is probably because societies have evolved with slow deliberation for centuries. A previously lengthy process of conceiving, drawing, planning, constructing, and decorating a building has been dramatically shortened by digital and virtual media, a new division of labor, and an increasing demand for flexible and changeable spaces.

In modern times, increased construction speed has brought architectural practice closer to the frantic rhythm expressed by changes in fashion. Today, architects and builders can cater to new fashions or styles more quickly. Rapid change has become a mark of contemporaneity, innovation, and flexibility rather than a sign of a fleeting trend. The fact that the life span of a building is far longer than that of a dress might still prompt architects to regard their own designs as superior in cultural significance. Then again, fashion might have an unexpected riposte to such ideas up her sleeve. New styles are usually revivals of old motifs or novel combinations of various cultural and historical influences. For instance, in 1898 French haute couturière Jeanne Paquin cited both the shape and structure of a Greek



An early 1920s air passenger in an outfit designed by Madeleine Vionnet.

stone column in her pleated dresses, a style that was itself quoted by Madeleine Vionnet in her high-waisted neoclassical designs of the 1920s. Nothing from costume history is ever lost, and fashion as a phenomenon always advances its own life span through constant citations from its historical sourcebook. An inherently Postmodern tactic of copy, parody, and quote has existed throughout the history of clothing.

Viewed as a constant reinterpretation of past styles, fashion appears much more permanent than its seasonal character leads us to believe. Fashion's detractors employ, consciously or not, a gender-biased critique when leveling accusations of ephemeral insubstantiality against the changing hemline or more recent sartorial experiments. It is female fashion that traditionally embodies change, at least it did when new dresses by Dior and Balenciaga (who are both revered for their "architectural" pattern cutting and garment construction) were still scrutinized for minute alterations in hemlines.

In fact, the last time a hemline had any serious impact on fashion development was during the reign of couturiers like Christian Dior and Cristóbal Balenciaga some 40 years ago. A time, incidentally, when architecture was still represented by tall men in dark suits and white shirts—as embodied by Gropius, Mies, and Gary Cooper's character in *The Fountainhead*. The attention women paid to their appearances was equated with a neglect of more spiritual or intellectual qualities and was implicitly denigrated by the male-dominated architecture profession.



An elaborate construction by John Galliano for Christian Dior.

Today, of course, changes in fashion influence menswear almost as much as women's wear. But fashion remains one of the few cultural phenomena in the West that can be described as a woman's domain, not only in consumption but also in its production and distribution. The patriarchal consensus, therefore, is that it should not be taken seriously and that it is not a decisive reflection of social reality, much less an anticipation and embodiment of moral change. Revolutions throughout Western history have manifested themselves in new garments, not in monuments, public buildings, social housing, or new town planning. Nevertheless, we tend to regard the introduction of trousers to Western women's apparel—as in the revolutionary sans-culottes—as a mere footnote to history, while elevating the construction of the neoclassical Assemblée Nationale in Paris to a chapter heading. In doing so, we subscribe to a historiography that favors after-the-fact reflection.

Purist trouser suits

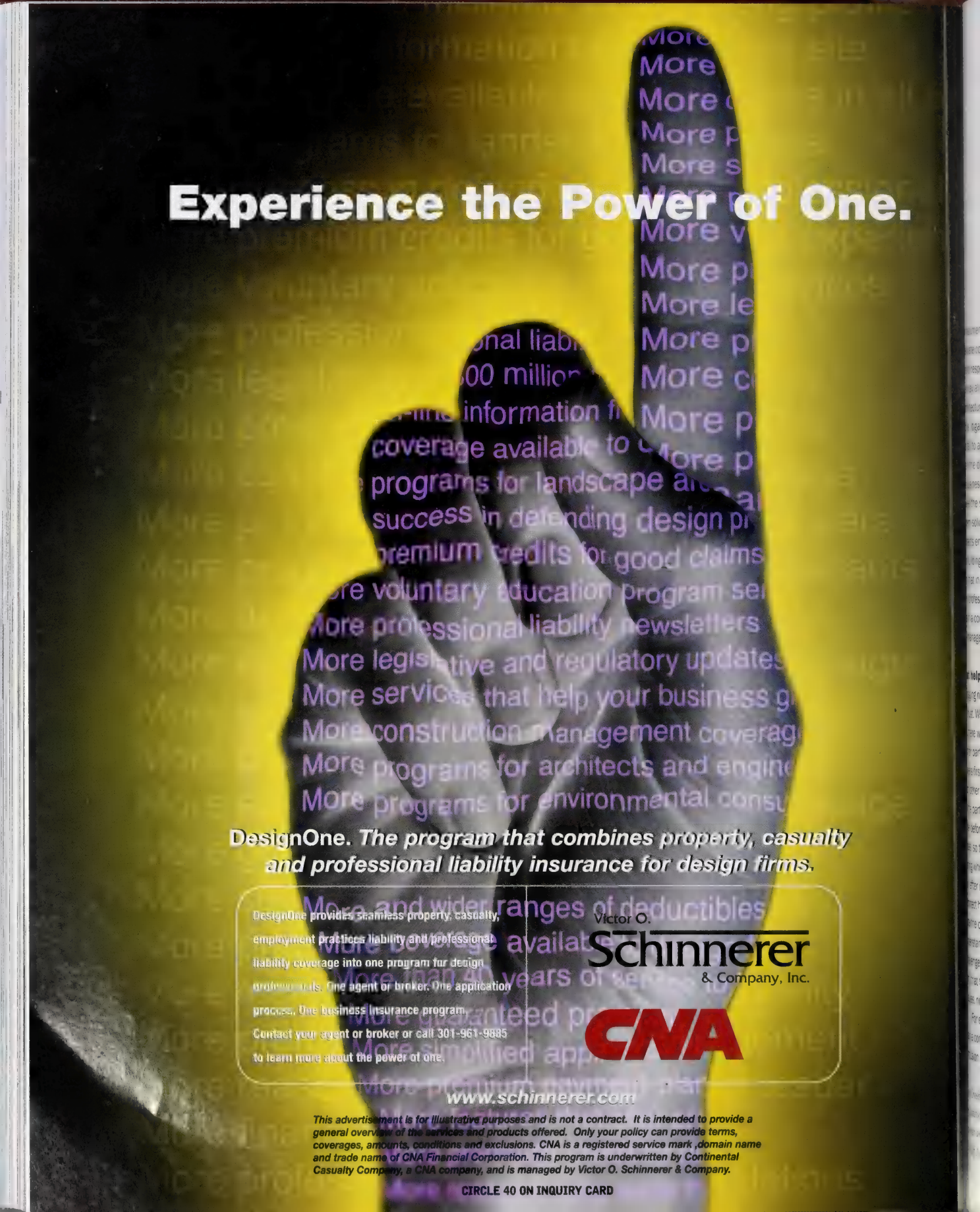
After 1917, when Coco Chanel and Jean Patou forced a change in women's dress to express an interest in movement, sport, and natural expression, it was their "new line" of purist trouser suits that caught the public's imagination. The fascination with physical culture and outdoor living—reflected in the architecture of Mallet-Stevens' glassed gymnasiums, the clean lines of Bauhaus balconies, or Le Corbusier's roof terraces—was at least a half dozen years away. Just because buildings in the Western world are usually fabricated out of lasting materials does not mean that they are more solid in their significance than clothing. Sartorial cover can be altered with much greater ease and less cost. Almost anybody can afford a new dress nowadays, whether it is from progressive designers or mass-manufactured for department stores. That makes fashion in clothing more conducive to social and moral experimentation than even the most progressive architectural statement, which must await planning permissions.

As modern consumers, do we experience the need to change our built environment at the same rate as our sartorial one? Of course not. We depend on the stability and permanence of our dwellings to reassure us of our social and cultural position, in the same way that we rely on seasonal changes in clothing to comfort us in the knowledge that we are moving with the times. It is the very interplay of permanence and change that has always propelled modernity along, and we require a position between the poles of stability and fluctuation to define ourselves as modern beings. This does not necessitate a cultural hierarchy where new roof terraces and glass elevations are seen as infinitely superior to changing hemlines.

Adolf Loos, who at the dawn of the 20th century did more than anyone to demand empathy for fashion from the truly modern architect, wrote, "An American philosopher once said: A young man is rich when he has a good mind in his head and a good suit in his wardrobe. This philosopher knows his stuff. He knows his people. What good is all intellect, if you cannot display it through good clothing?" The idea of constant change does not exclude planning, reflection, and quality construction in fashion or in architecture. The more our society is determined by the quick reaction, adaptation to new technology, and lifestyle changes, the more architecture should study trends in sartorial fashion. Since permanence is no longer a hallmark of significance, fashion has become a cultural determinant. It has been adopted by product design, the visual arts, and theory alike.

Undoubtedly, a new line in dress—not to mention a new hemline—is not always in itself a significant cultural contribution. But the fact that it reflects continuous change and heralds new social conditions makes fashion a point of reference, reflection, and response for architecture. ■


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CIRCLE 40 ON INQUIRY CARD

Strategies for creating an in-house risk-management program

Practice Matters

By Don Crosby, AIA

or documents, unclear contracts, adequate communication, and ilure to respond to crises in a ely way all create great risks for architectural firm, the worst of ich is litigation. Yet architects en fail to address these prob- ns in the day-to-day operation of eir businesses. Risk management volves the same ingenuity and oblem-solving capabilities that chitects employ in the design of eir buildings. It is only natural, en, that in well-run practices ery professional should partici- ite in a comprehensive sk-management program.

ust helps resolve problems

anaging risk begins with develop- g trust. When problems occur on a b, there will always be the tempta- n for parties to speed-dial their wyers first and communicate with ch other later. A better solution is r the parties to learn to trust each her before the first problem ever rises, so that when it does, deter- ining who is responsible occurs ly after it has been resolved. If the rchitect has taken the time to edu- ate the client, then the client will nderstand that there are always allenges in a complex building, nd that the goal is to resolve sues, not to litigate them.

For example, recently, our firm ad a condo project where water ntrusion from some patio decks occurred. The client called us first, and we then brought in the contractor and subcontractor. Together we determined that a flashing detail had not been constructed correctly. Instead of pointing fingers, the team designed and installed a fix and the client was satisfied.

Other clients are not so easy to work with, so an important component of risk management demands turning away clients who don't place a high value on communication and conflict resolution. Many larger clients assign contract negotiations to lawyers who may not have adequate experience with the building industry. Therefore, architects and their insurers need to take the time to educate inexperienced clients, or their representatives, in what are reasonable errors and omissions, code issues, and insurance coverage. Any client who insists on contract language that forces an architect to act in a way that is unethical, illegal, or uninsurable is not a desirable client. Although this initial care may protract contract negotiations, if you hold the line in order to ensure a better project and a reasonable profit, you can earn the client's respect. It has been my experience that how things go during contract negotiations can be a good way to predict what will occur during construction.

Architects should also research their client's finances before signing a contract. Credit-reporting services such as Dun & Bradstreet are a good source of background information on potential clients. We do not contract with shell corporations or limited-liability corporations.

A new position: risk manager

Starting a risk-management program requires designating a senior person to act as the firm's risk manager. Once, this person might have been called "production chief"—a senior person with a strong background in document production, codes, and contracts. Today's risk manager must also have the ability to communicate with the staff about these issues, as well as experience dealing with legal and insurance professionals. He or she needs to know whom to call for advice in a given situation; for example, should it be an engineer or a code consultant?

The risk manager should track all claims or suits and be the firm's chief liaison on these matters. He or she must also stay informed about new construction problems as they are discovered industry-wide, as well as new technical information, and communicate these to the staff. The final responsibility for the quality of a project falls to the principal-in-charge or project principal. Project managers, who are absorbed in day-to-day issues, may not see the red flags that a project principal—with assistance from the risk manager—might notice. The risk manager serves as in-house adviser to everybody.

The quality-control plan

The foundation for any risk-management plan is the firm's quality-control manual. The manual outlines procedures that should be followed, starting with reviews of marketing proposals. As an expert witness, I have seen circumstances in which the marketing department promised a service or process in their proposal that the architects could not deliver. The principal-in-charge should review all marketing text, particularly that which is related to construction documents, construction administration, plan checking, and schedules.

Plan checking has become a bigger issue than ever because construction documents are stored out of sight—digitally—instead of in print form, where they can be readily reviewed, and because there is a wider gap in technical knowledge between senior and junior staff than ever before.

The quality-control manual should outline procedures for project reviews at the conclusion of each phase. Preferably these should be done by a fresh pair of eyes. It is best to use a plan checker from outside the firm or, if one is not available, use someone from another team in the firm. Currently, at the end of each phase our firm checks plans at least three times, in part to catch errors that could occur due to the knowledge gap. Finally, the manual should outline the process for quality control throughout the construction process.

A good risk-management plan builds on the manual and can be brief. Here are some key ideas for reducing your firm's risks:

- Create a culture in which solving problems is more important than assigning blame.

n Crosby, AIA, has practiced chitecture for over 35 years. He is a rtner and the risk manager at tcliff Architects in Emeryville, Calif.

• Appoint senior staff member(s) to coordinate and manage risk.
• Have project principals report potential problems to the risk manager immediately and develop a responsive strategy.
• Before reporting a potential problem to the insurance company, the firm managers should agree that all alternative solutions have been explored.
• Make appropriate staff available to the risk manager to deal with project-related problems.
• Establish a budget to cover risk management.

YOUR FIRM CULTURE SHOULD BE TO DEFER DECIDING WHO IS RESPONSIBLE FOR A PROBLEM UNTIL AFTER IT HAS BEEN FIXED.

Getting staff buy-in

The plan and the process of risk management must be shared with the entire firm. An annual presentation can orient new employees and update the existing staff. Identify a senior technical person who can answer technical questions during the design phases, before potential problems reach the field. The risk manager should continuously distribute updates to the plan and inform staff of relevant technical issues. Well-trained employees understand their professional responsibility in terms of life safety and reputation. But it is important to explain the costs of litigation as well as its negative impact on morale.

Covering the cost

Our firm allocates 1 percent of the net project fee to cover the cost of risk management, and we have found that this is enough to respond to our clients' needs. It serves as a reserve for dealing with problems during or after construction and is very inexpensive insurance.

A few helpful hints

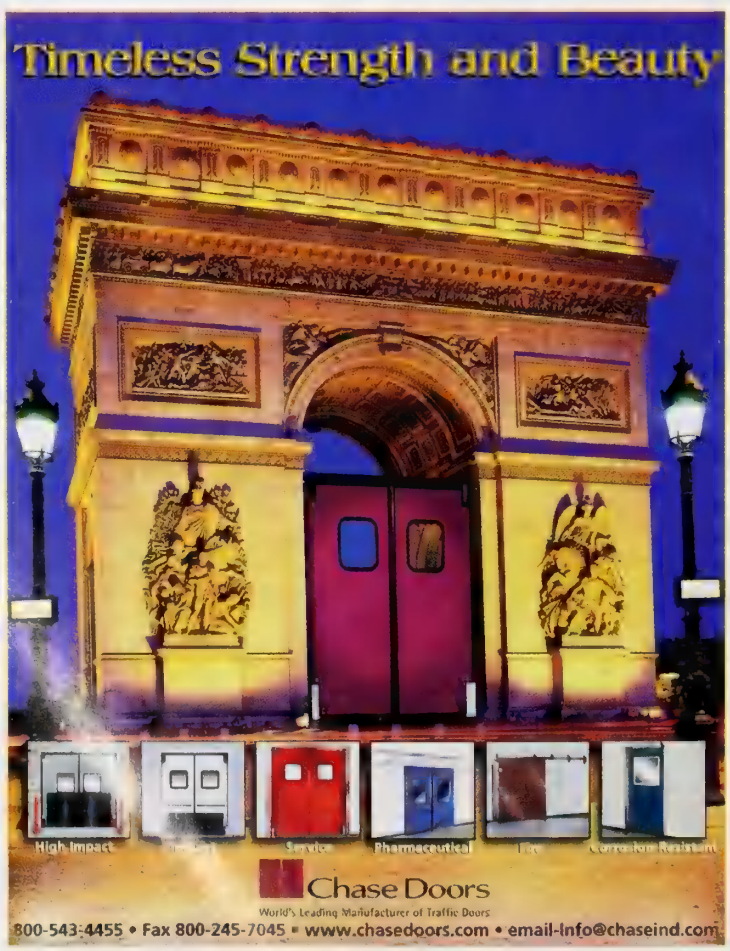
Should a client call with a complicated problem, an expert should be brought in immediately. It is a good idea to contract with a waterproofing consultant from the outset, since water penetration is the source of many claims in certain areas. A building-skin consultant can be invaluable on complex high-rise projects. Remember that your consultant cannot be an expert witness against you if litigation occurs.

In the Bay Area, the Advanced Management Institute, a local organization that offers ongoing training for professionals in the A/E industry, sponsors a monthly forum for risk managers. This informal luncheon is invaluable for hearing about strategies to address the most recent developments in technology and litigation. If such a forum does not exist in your area, work with the local AIA to establish one.

While architecture schools are good at teaching about the architect's ethical responsibilities, few offer courses in risk management. With the growth of the AIA's Continuing Education Program, local chapters and insurance companies are offering frequent courses in these areas. Pay for younger staff, whether they are AIA members or not, to take these courses.

Conclusion: create a culture

In addition to assigning a risk manager to oversee the process and educating the staff, it is also important to have enough project principals available to oversee projects and spot risky situations. Risk can be significantly reduced if the entire team works together to communicate with the client so that he or she will call you first when a problem arises. That call and your committed plan may keep you out of court. ■



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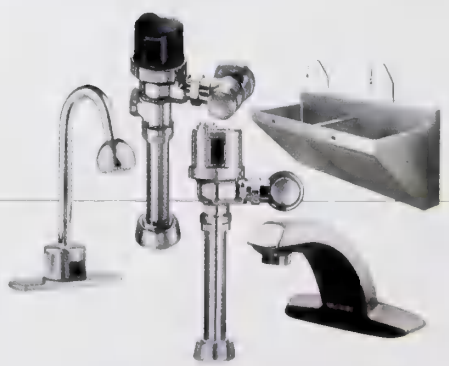
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CIRCLE 44 ON INQUIRY CARD

Futures past: Cities and designs that grow from understanding history, mistakes and all

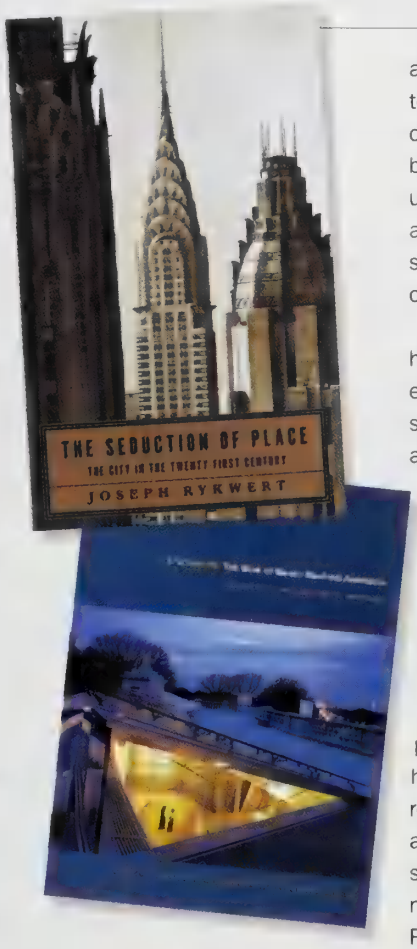
Books

e Seduction of Place: The ty in the 21st Century, *by seph Rykwert. New York: ntheon, 2000, 283 pages, 8.*

ou were marooned on a desert and with just one book about ban design, past and present, you uld want it to be this one. First, it es you a dense but smoothly itten, synoptic history of cities m ancient Mesopotamia, Greece, d Rome to current-day New York, ndon, and Hong Kong—perfect r that ultra-small library. Second, it fers advice on thinking about cities, vice that considers the history th of architecture and planning.

Joseph Rykwert does not lieve in simply shrugging off the ate of the contemporary city as a oduct of various external historical nd economic forces. An architec- ral historian and emeritus ofessor at the University of ennsylvania, he is known for umbing the history of ideas in rchitecture and urbanism in such ndmark works as *On Adam's ouse in Paradise: The Idea of e Primitive Hut in Architectural istory* (1972) and *Idea of a Town: he Anthropology of Urban Form Rome, Italy, and the Ancient orld* (1976).

In *Seduction of Place,* Rykwert eminds us that cities are shaped by number of agents of change—olitiicians, planners, developers, nd others—all driven by a slew of ood and bad motives, including reed and power, benevolence and ocial responsibility.



Rykwert's broad focus leads him to point out that "irrationality and miscalculation—sometimes ruinous miscalculation. . . are as much an inescapable part of the history of urban development as they are of the story of banking or the industrial economy."

Not surprisingly, Rykwert finds that the use of the term "globalization" to describe the growth and change in cities too often masks the role of individual actions and personal responsibility in the shaping of those urban agglomerations. Looking at the local level, Rykwert asserts that zoning policies devised to control land use and growth often foster monotony and inflexibility. For example, he notes that unexpected developments—such as the recent phenomenon of small-scale urban farms—are often stymied by such regulations.

For all the damage done by human error, the city is a "precious, essential" achievement of man, says Rykwert. Because of this, he argues that communities should encourage greater involvement on the part of residents through such processes as public "brainstorming" or community "charrettes," instead of leaving planning decisions only to city councillors and traffic advisers.

Architecture plays a significant part in shaping urban settings, helping to create places that people remember, love, or avoid. But while architects have greatly debated styles and design approaches, many mistakes have been made, notes Rykwert. "The relationship of tall buildings to the street remains one of the great problems of the 20th-century building."

In making his overall argument, Rykwert skillfully weaves much information into a tapestry that is all the richer for its background detail. A surfeit of lesser-known but fascinating facts includes the effect of the Canal du Midi, built in 1680 with 119 locks, in generating trade and industry throughout France, and the sudden explosion of hackney carriages in London from 40 in 1635 to 700 by 1700. (Think of the manure.)

While Rykwert's general history of cities around the world may be known to a professional audience, it had not been presented in so succinct or complete a manner before this book. Such enriched fare underlines the importance of knowing history as we undertake the task of improving old cities or creating new ones. *Reviewed by Suzanne Stephens*

Site Specific: The Work of Weiss/Manfredi Architects, *by Marion Weiss and Michael Manfredi. New York: Princeton Architectural Press, 2000, 128 pages, $35 (paper).*

A monograph on the New York firm Weiss/Manfredi Architects, *Site Specific* examines how architecture can extract the history and secrets of a particular location, making a new place that is physically and intellectually compelling. The book's cover photograph immediately pulls the reader into the firm's best-known built work, the Women's Memorial and Education Center at Arlington National Cemetery, a glass-and-steel insertion within a neoclassical gateway designed by McKim, Mead and White. Shot from the memorial's new rooftop walkway, the photograph captures the grand sweep of the old granite balustrade while offering a view through a trapezoidal glass window that reveals a contrasting but complementary interior space to McKim, Mead and White's architecture.

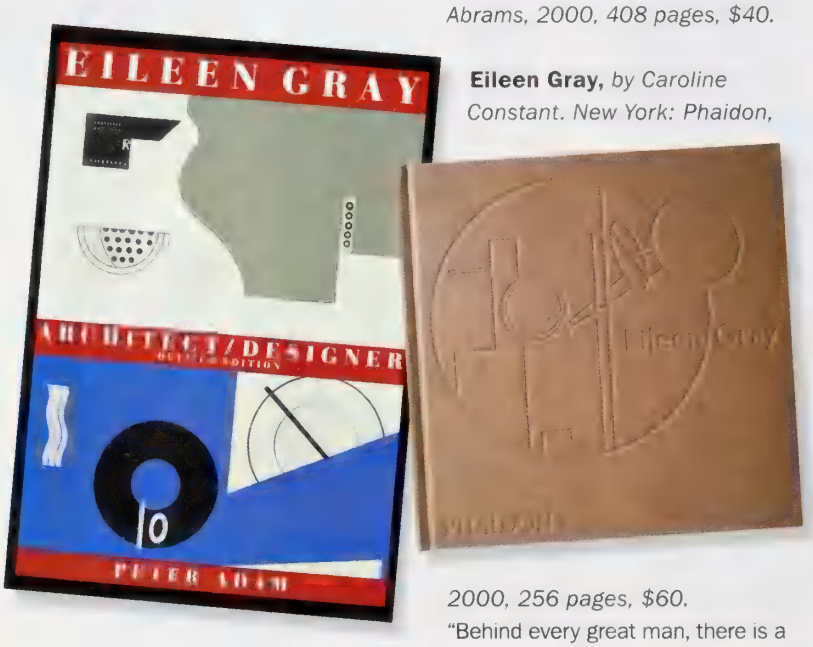
The book begins with an introduction by Terence Riley, chief

curator of architecture at the Museum of Modern Art, who traces Weiss and Manfredi's artistic lineage from their former employer Romaldo Giurgola to his mentor, Louis Kahn. Mark Robbins, director of design at the National Endowment for the Arts, contributes a thoughtful overview of the firm's practice, its design process, and some of its important projects. The book then presents 19 Weiss/Manfredi projects grouped by work type into four chapters: "Site and Memory" (memorials); "Infrastructure's Landscape" (planning and design projects for traffic corridors, pedestrian routes, and the like); "Constructing the Site" (parks and buildings that seem to grow from their sites); and "Surfaces and Settings" (mostly interiors).

From simple sketches to urban solutions, *Site Specific* reveals a design process that patiently considers each site, unselfconsciously drawing out its unique qualities. For example, the pages on Olympia Fields Park and Community Center, completed in 1994 in Illinois, present a design that integrates new park structures, existing farm buildings, and sculpted land forms that respond to the glacial moraines that covered the rolling 20-acre site during the most recent ice age. With such references to geological forces, Weiss and Manfredi capture a remarkable echo of time: one of glacial moraines and 100-year-flood plains.

Reviewed by Nancy Lago, AIA, who is a principal of her own architecture and landscape design firm in New York City.

Eileen Gray: Architect/ Designer (revised edition), *by Peter Adam. New York: Abrams, 2000, 408 pages, $40.*



Eileen Gray, *by Caroline Constant. New York: Phaidon, 2000, 256 pages, $60.*

"Behind every great man, there is a great woman" goes the old adage. The same may be true in architecture, whose history is often strikingly male. Whether by virtue of their gender, personality, or the social constraints of their time, some women architects—Charlotte Perriand, for example—found their contributions overlooked in favor of their male collaborators. Yet a wave of revisionist history has led to the discovery, or rediscovery, of many of these women.

Eileen Gray exemplifies this kind of posthumous revival. Although celebrated in the 1920s and '30s as a pioneer of modern design for her innovative furniture and architecture, Gray was largely forgotten by the middle of this century—while the men with whom she collaborated, particularly Romanian architect Jean Badovici, were given credit for some of her work.

When the first edition of Peter Adam's book was published in 1987, it was the only full-scale biography of Gray available. Adam knew Gray personally and had access to her archives. As a result, his book is an informal, affectionate portrait. Chronological and straightforward, conversational in tone, it chronicles the details of Gray's life in a complete, but not probing, way.

Caroline Constant, a professor of architecture at the University of Florida at Gainesville, takes a more scholarly approach to her subject. She treats the biographical details more parenthetically than does Adam while more carefully tracing and analyzing Gray's designs, influences, and milieu. Constant places Gray's work in the context of contemporary movements in design and architecture, as well as within 20th-century social and cultural history. She also credits Gray as the co-architect of four houses that until recently had been attributed solely to Badovici.

Not surprisingly, the two books have many of the same illustrations showing Gray's Asian-influenced lacquer furniture, her rug designs, and her innovative modern furniture and architecture. Gray's most famous house, which she called E. 1027 and built for herself and Badovici in the south of France, is particularly well documented in both volumes.

Although both books do a good job of covering their subject, Constant's volume emerges as the clear winner in terms of graphic design and visual impact. One of Gray's abstract rug designs is embossed in the book's rust-colored cloth cover (it has no dust jacket), and bands of this rust tone run throughout the book, framing photos and serving as a background for captions. This powerful graphic device helps make the book as modern and user-friendly as Eileen Gray's own work. *Reviewed by Elizabeth Harrison Kubany*



Mexico City: A Guide to Recent Architecture, *by Philip Opher with Xavier Sanchez Valladares. London: Ellipsis, 2000, 292 pages, $15 (paper).*

The latest in a series of appealing little guides published by London-based Ellipsis, this book measures exactly 4¼ by 4¼ inches and fits neatly into almost any pocket. Like Ellipse's other guides to recent architecture in places such as London, New York, and Switzerland, this one includes a brief introduction and then presents a selection of buildings organized by neighborhood. Each project gets one black-and-white photograph and a short but informative block of text.

As Opher, a British architect, explains in his introduction, the book features a "personal selection" of architecture, ranging from the renovation work under way on Mexico City's main cathedral on the Zócalo to buildings by Augustín Hernández, Teodoro Gonzáles de León, Ricardo Legorreta, Enrique Norten, Isaac Broid, and Alberto Kalach. "Although not yet fully appreciated abroad, Mexican architectural culture is extremely lively and diverse, with a fierce rivalry between the advocates of different approaches," states Opher. Indeed, partisans of heroic Modernism such as Gonzáles de León and Abraham Zabludovsky, synthesizers of Modernism and vernacular design such as Legorreta, and a new generation of edgy architects engage in a vibrant discourse. Other Ellipsis guides include *Art New York, Eat New York,* and *Shop New York,* and similar guides for London and other cities. *Reviewed by Clifford Pearson*


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Snapshot



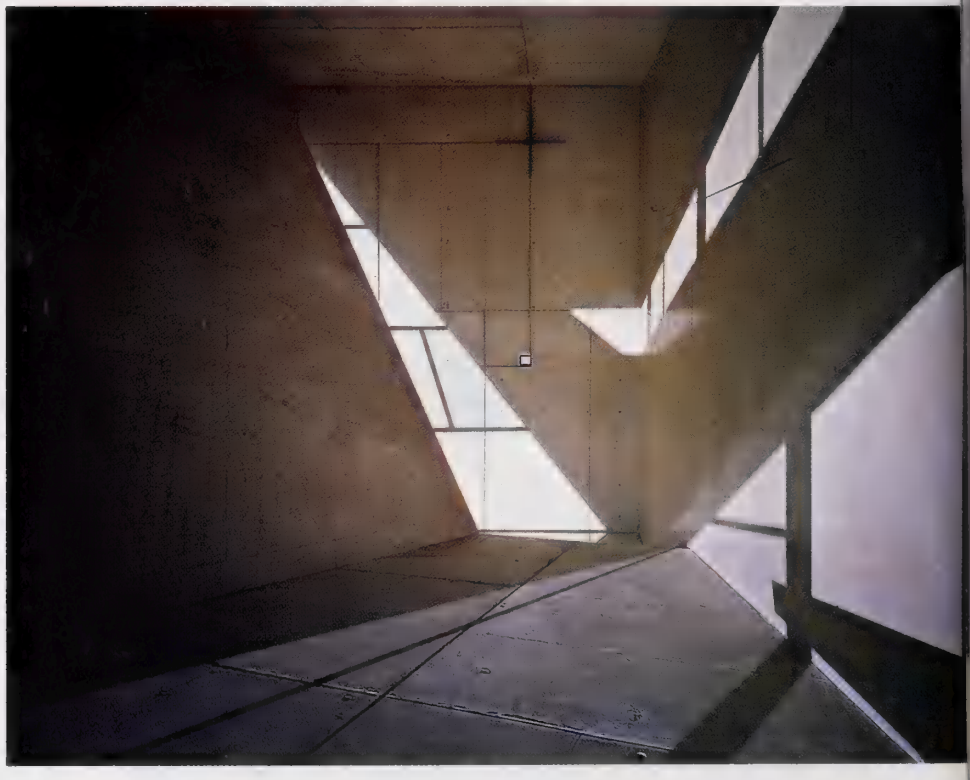
y David Cohn

Spirit and soul unfold in a Spanish chapel

et in the untamed hills of Valleacerón in central Spain, this private hapel offers a contemporary take on an old Spanish tradition. It forms art of a rustic weekend retreat: a hunting preserve with a main house, ool, and trophy display pavilion on 12,000 acres. The estate was built y a famous soccer player, in much the same spirit as successful bull-ghters often build aristocratic country estates. In this case, however, the client passed over traditional stylistic odels for the bold formal experiments of Madrid architects Sol Madridejos and Juan Carlos Sancho.

Madridejos and Sancho developed the chapel design by deforming a regular rectangular box, and introducing iagonal cuts and folds in the box's six sides to distort its shape and open it to the exterior. The total surface area of ach plane was not changed in these operations. Instead, each cut and fold had to be counter-balanced by cuts and olds on other planes. As Sancho explains, "If you move one element, everything else moves, as well. Everything is ed together, as if on a string, governed by the laws of topology, the mathematics of surfaces."





The architects manipulated the folds to create an interior focal point on the chapel's rear wall, where a Neogothic image of the Virgin will hang. This focal point receives natural light from a large incision in a side wall and from the complex triangular cuts of the western entry facade and the roof. From within, these openings offer dramatic, framed views of the landscape.

The topological balance created between the angled planes made the structural design relatively simple, Sancho reports. Though reaching a height of 34 feet, the concrete slabs are less than eight inches thick, and without beams. The openings are glazed and framed in Cor-Ten steel.

The chapel was built following a dimensioned and detailed model instead of plans. Each plane was erected in an order determined by the structural engineer, and each pour was separated by wood spacers. Local aggregates and marble fill give the concrete a warm golden tone.

The owner uses the chapel as a place of spiritual meditation rather than religious rite. The structure is without electricity or heating—thus maintaining a more primitive and direct relation with its hilltop setting. According to the architects, the soft tones of the concrete are particularly sensitive to the changing qualities of direct natural light which, as the architects put it, "erupts like another plane in the spatial composition, to the flushed, unstable aroma of dawn." The owner describes another vision of the chapel under a full moon—like a fragile, weightless shell on the point of levitation. ■

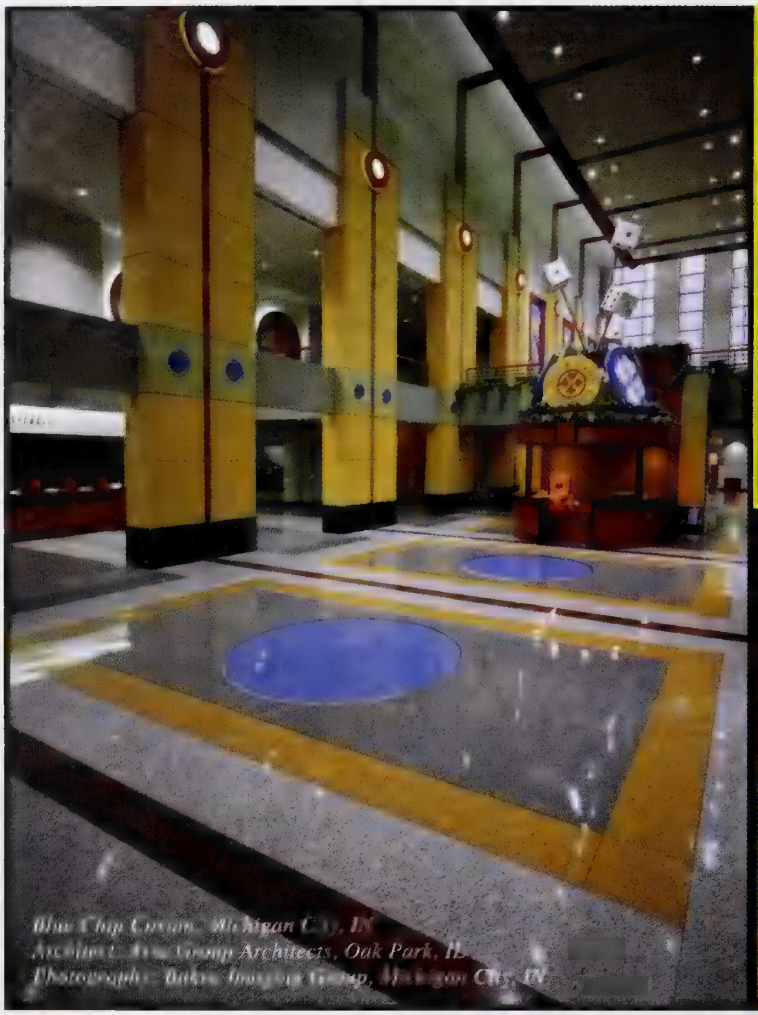


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hibits the fantasies and realities of architecture d design for space travel. Includes works by chitects, engineers, industrial and graphic signers. At the Art Institute of Chicago, sho Kurokawa Gallery. 312/443-3600 or ww.artic.edu.

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isplays the collection of Calatrava's models, nd small-size sculptures entitled *The Aegean ieces*. This is the inaugural exhibition at the leadows Museum at Southern Methodist niversity. Contact 214/768-3785 or ww.cboleman@mail.smu.edu.

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xplores the influence of Japanese design n the famous American architect. At the apan Society. Contact 212/832-1155.

Architecture and Water
New York City
March 28–September
Focuses on five projects that integrate architecture and landscape to engage today's waterfront. Includes work of Foreign Office Architects, Diller and Scofidio, MVRDV, Steven Holl and Michael van Valkenburgh, and Alsop and Stormer. At the Van Alen Institute. Contact 212/924-7000.

Federal Design Now! GSA 2000 Design Awards
Washington, D.C.
March 29–July 8
Exhibits contemporary architecture and artworks that were commissioned by the U.S. federal government and that won GSA 2000 Design Awards. At the National Building Museum. Contact 202/272-2448 or see www.nbm.org.



CIRCLE 49 ON INQUIRY CARD

Dates & Events

Territories: Contemporary European Landscape Design
Cambridge, Mass.
April 20–May 24
Presents current themes, trends, and completed works of landscape architects in contemporary Europe. Conference on same topic held April 20–21. At Harvard University Graduate School of Design. Contact 617/495-4784 or see www.gsd.harvard.edu.

Conferences and Symposia

Design Futures Council Meeting: "Anticipate and Capitalize on New Opportunities in the A/E International Marketplace"
Chicago
April 24
Explores international market analysis, tactics for success, financing, and legal and risk-management issues. At the CNA Plaza. Contact Beth Seitz, 770/209-3771.

Eisenman's Aronoff Center - A Critique
Munich
April 24
A lecture by Professor Wolfgang Preiser of the College of Design, Architecture, Art and Planning. At the Technical University of Munich. Contact 49/89/289-100 or see www.bri.arch.tu-muenchen.de.

AIA Continental Europe Chapter Meeting
Madrid
April 27–29
Important biannual meeting for AIA members in Europe. Contact 202/626-7415 or edelage@aia.org.

Symposium on Architecture and Nature
New York City
May 1
Diana Agrest will deliver the keynote address, focusing on the work of Frank Lloyd Wright and others who reinterpret nature through built form. Respondents include Stan Allen, Kenneth Frampton, and Robert Irwin. At the New School. For more information see www.newschool.edu.

45th Annual CSI Convention and Exhibit
Dallas
June 21–24
Sponsored by the Construction Specifications Institute. At the Dallas Convention Center. Contact 800/689-2900 ext. 4772 or llowe@csinet.org.

Competitions

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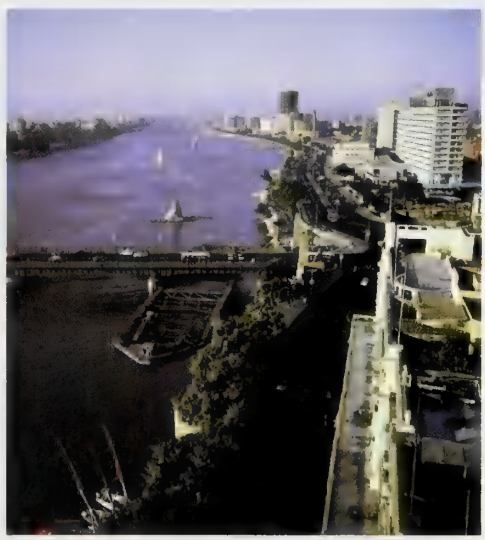

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Minarets compete with modern towers, and laundry hangs out with satellite dishes in today's Cairo. Luxury developments hug the banks of the Nile (opposite).

Deciphering Greater Cairo

Michael Sorkin



How do you fit 20 million people between the desert and the Nile?

Arriving in Cairo, my plane descended slowly along the city's edge and took a wide U-turn above the Pyramids, offering a view that encompassed the hole city; it was like looking out the window of chariot of the gods. What struck me was that e city didn't seem large enough.

Like many cities in the developing rld, Cairo has a different kind of an edge than nerican cities. Although Cairo is huge, it does- exactly sprawl, cleaving in general to the line the Nile. The combination of a delimiting sert and a social gradient that locates wealth ar the river contributes to a relatively compact ea. Of course, the insane densities also help: e average in Cairo (69 souls per acre) is close six times that of Mexico City. A city of nearly million, greater Cairo occupies an area proximately twice that of Paris but holds more an four times its population. And although tes have slowed slightly, the city is growing by out 350,000 people per year, a strain far yond available resources or infrastructure.

Cairo is the mother node in a system at stretches the length of the Nile, the linear ty par excellence. Egypt, in effect, is a country 0 miles long and half a mile wide, a singular ological entity. Settlement and cultivation cupy only 3.5 percent of the land area of the untry, and one of Cairo's biggest problems is e encroachment of development on desper- ely scarce agricultural lands. The exacting ifference between the desert and the river cre- es a split in character that is an indelible fact of the Egyptian environment. This extreme, bifurcated ecology defines the nation with a presence that is all-pervasive, whether in the sand seeping through every crack or the urgent cool of the Nile banks.

The character of Cairo shifted dramatically with the construction of the first Aswan Dam in 1902. By stabilizing the river's banks, the dam not only rescued Egyptian agriculture from historic cycles of flood and drought, but enabled extensive urban development along the shore, leading to a westerly shift in Cairo's center of gravity away from the medieval city east of the flood plain. The current character of the city, with its phalanx of high-rises straining for a view of the river, is the hypertrophied result, the familiar Chicago syndrome. One conspicuous distortion is the insane valuation of prime riverfront sites, which fetch prices at the Tokyo or New York standard, as much as $1,850 a square foot. Indeed, Cairo is busy blowing a speculative real-estate bubble of great and frightening dimension.

While it would be foolish to describe Cairo as a city flush with efficiency, there is little sense of disorder. Although the crowds are thick, the traffic legendarily grim, and the pollution ghastly (a single lead-acid battery recycling plant has apparently caused a one-point drop in the IQ of Cairene kids), the order of inconvenience does not rival, for example, Bangkok, pinioned in its paralysis of growth. Part of the reason is simply cultural. I've always been struck on visits to Cairo by both the ubiquity and the softness of the crowds. While there is a tremendous problem of under-employment in Egypt, unemployment rates are actually fairly low. In

ontributing editor Michael Sorkin is an architect nd critic based in New York City.



Cairo is one of the mostly densely popu- lated cities in the wo and continues to gro by about 350,000 pe ple a year. Although i resources and infra- structure are severel strained, residents a experts at handling congestion.

commercial quarters, bazaars, and old neighborhoods, the bustle—the sense of endeavor—is tremendous but somehow calming. As anyone who has read the novels of the great Naguib Mahfouz will know, this street life is one of Cairo's historic glories, an intricate interaction of its citizens with shops, mosques, cafes, houses, and the narrow medieval pattern of streets.

There's no better place to meditate on this condition than the celebrated Al-Fishawi cafe, long since elevated to a tourist icon and one of the world's great institutions of urban conviviality. In the midst of the teeming Khan Khalili bazaar and near the ancient, magnificent Al Ahzar university buildings, Al-Fishawi comprises a double-deep enfilade of rooms done in the faded plush of the 19th century. Tables spill into the narrow pedestrian lane in front; the opposite side of the street is also lined with settees and chairs, with little tables, with a row of hookahs, and with the comings and goings of tiny cups of murky sweet coffee and glasses of minted tea. Contained in this environment is everything an architect could possibly want to know about the relation of scale, texture, and sociability, as well as an utterly exemplary and sympathetic interaction between private commerce and the space of public life.

Al Fishawi is a reminder of the tremendous success of the city's medieval pattern, a pattern that still has deep relevance for contemporary planning. The Cairene harat, or neighborhoods, are carefully but flexibly hierarchical. Here, density abets locality, producing a style of neighborhood self-sufficiency in cultural, religious, and commercial affairs that contemporary planning strains without success to reproduce. One problem, however, is the adoption by more and more Egyptians of the lifestyles of the global bourgeoisie, an outgrowth of the pattern produced by an economy focused on large-scale industrialization and bureaucracy rather than the smaller-scaled, more crafts-intensive pattern of the traditional city. And, part of the problem is simply the lack of convincing planning models that preserve the best aspects of such traditional environments.

Egypt is one of the world's great battlegrounds between tradition and modernity. This tends to schematize politics, leaving little room for the forms of compromise, the pattern of constant giving ground between private and collective interests embodied in the traditional city. After years of a semi-authoritarian, statist view of modernization, Egyptian architecture has virtually ceased to offer useful alternatives or resistances. One of the surprises in all this—given the tense, somewhat subterranean, standoff between an essentially secular government and the network of fundamentalist institutions that oppose it—is that architecture figures so little in the elaboration of this difference, that its symbolic import seems to have little or no weight in the struggle.

The best-known architect of modern Egypt, the late Hassan Fathy, embodies this contradiction precisely. Long an apostle of traditional building and town forms as well as an energetic investigator and advocate for traditional means of construction, Fathy followed an



approach of deep cultural and environment resonances, filled with imputations of loc economy and the virtues of self-help. Th resulting architecture—from the town of Ne Gourna to a suite of beautiful Cairene villas— subtle, powerful, and filled with fellow-feelin for the cultural and physical landscape.

But Fathy is very much a guru withou a following in Egypt. Neither the architectur schools, nor the bureaucracy, nor the broad mas of citizens seems to have much concern for th relevance of Fathy's work. This is partly due to th widely perceived failure of New Gourna, nea Luxor, which Fathy built to rehouse a populatio that had made its living robbing graves in th Valley of Kings and that, ultimately, didn't cotto to resettlement and reemployment.

This articulation of the relationshi between Western and traditional Islamic model of urbanization as a conflict has long formed th major trope for discussions about the growth o Cairo, indeed about development in the Islami world in general. Interestingly, though, Cair

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CIRCLE 53 ON INQUIRY CARD



The medieval pattern old Cairo with its trad tional neighborhoods or *harat,* has relevan for contemporary pla ning. The relation of scale, texture, and sociability here still impresses designers.

never developed the extreme bipolarity of other north African colonial cities with their traditional medieval medinas twinned with the orthogonal, rationalist plans of their colonizers, most prominently the French.

Indeed, one of the abiding fascinations of Cairo is its extremely successful import of global models of urban development and the integration of these foreign prototypes into the city against staggering demographic and economic odds. The large-scale grafting of European urban models began during the reign of Mohammed Ali, Egypt's first and prototypical modernizer. Confronting a city in which fewer than 8 percent of streets were wide enough to permit two-way cart traffic—and in which he was the only carriage owner—Ali removed encroachments from city streets and realigned many, with the unfortunate loss of considerable architectural texture. Large numbers of official and private structures were built, and over 400,000 construction workers were employed at one point on government projects.

Khedive Ismail, Mohammed Ali's grandson, deeply impressed by the Parisian Exposition Universelle of 1867 (Haussmann's swan song), implemented practices of which his grandfather had only dreamed. On his return from Paris, Ismail appointed Ali Mubarak as the Haussmann of Cairo, charged with drawing up a Parisian style master plan for the city. Spurred by the approaching festivities surrounding the opening of the Suez Canal in 1869, Ismail and Mubarak remade the face of the city, cutting a radiating system of boulevards, adding new European-style neighborhoods and buildings, even hiring Barillet-Deschamps, the landscape architect of the Bois de Boulogne, to create a local version of the Parc Monceau.

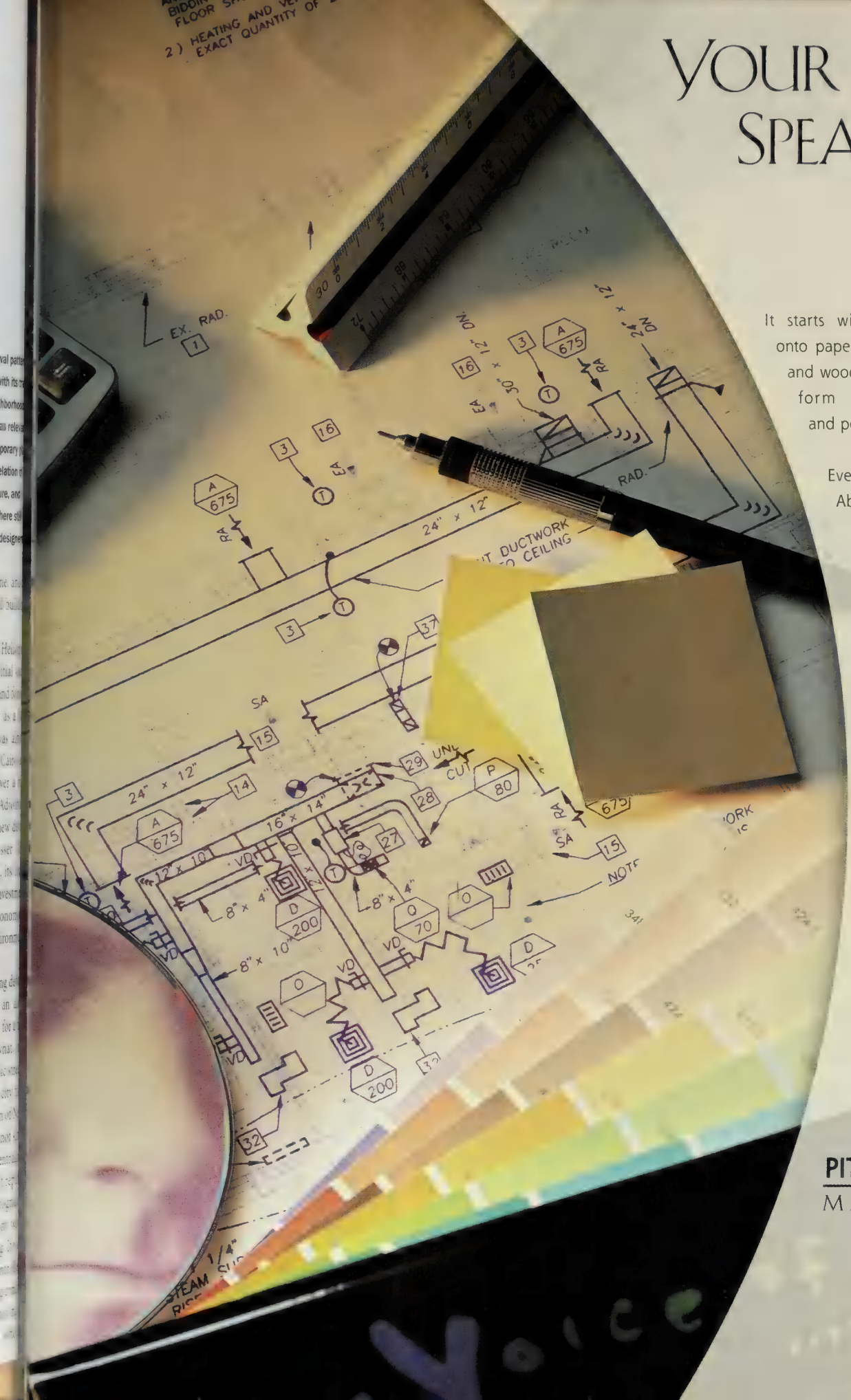
This activity had both positive and negative results. Among the latter was the wholesale destruction of much of the historic texture of the city and the bankrupting of the Egyptian economy, opening the door for British colonization in 1882. Nevertheless, the rapid growth of the city continued, much of it financed by foreign capital for speculative projects. Among these was an extensive system of streetcar lines which set the pattern and standard for Cairene public transportation and which remains a highly constructive development.

CAIRO HAS IMPORTED GLOBAL MODELS OF DEVELOPMENT AGAINST STAGGERING DEMOGRAPHIC ODDS.

Among these trolley lines was the Cairo Electric Railway, built in 1906 by Baron Edouard Empain, a Belgian financier and industrialist. Empain used his trolley to leverage both the financing and development of Heliopolis, a new town in the desert to the north of the existing core. Much influenced by English Garden City planning, Empain's idea was to create a largely self-sufficient town in the desert with both a lavish resort component and an industrial base. With this in mind, a wide range of housing types was planned, although their internal layouts were essentially European. The architecture—arcaded and elaborate—achieves a kind of orientalist sublime, and t generous apartments in the original buildin are much sought after today.

By almost any standard, Heliopo ranks as a success. Although its initial occu pants were drawn from the wealthy and foreig populations (the Brits took it over as a ba during World War I), Heliopolis was almo immediately annexed by the city of Cairo ar today houses over a mi lion people. Adjoinin both the huge new deve opment of Nasser Ci and the airport, its loca tion continues to draw substantial investmer and to provide a fundamentally autonomou city sector. The quality of the environme remains high.

Although there is a continuing deba over whether Heliopolis represents an alie import, involving all the usual appeals for a fic titious architecture of authenticity (what, on wonders, is the precedent for an Islamic street car suburb?), it's clear that Cairo—a city tha has added nearly half of the population of Ne York to itself in the past 10 years—cannot sim ply expand exponentially but must decentralize And, from the beginning of the current repub lic, the Egyptian government has recognize this and pursued an active and in many way exemplary policy of new town building. It wa recognized early on that the uncontrolle growth of Cairo was not simply creating condi tions of apraxia for the city itself but having distorting effect on the country as a whole



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The completion of th Aswan Dam in 1902 stabilized the banks the Nile, allowing development close t the river on land that had previously been flood plain. Today, hi rises hug the water.

Cairo, the classic metropolis, continues to draw vast numbers of people from the countryside, most of whom wind up either in informal settlements within the city or at the urban periphery on existing agricultural land.

Having made the decision to try to deal with Cairo's growth as the symptom of a national problem, the government has adopted a triple approach. First, to built new cities and reinforce older centers elsewhere in Egypt to provide employment and residential possibilities in place. Second, to develop satellite cities at the periphery of Cairo to relieve pressure on the historic city core and to manage the huge appetite of the sanctioned and the informal sectors for space. And finally, to elaborate so-called homogeneous zones within Cairo as essentially self-sufficient communities.

This policy has developed over a number of years and has been closely tied to shifts in administration. The initial master plan was promulgated in 1956 during the Nasser period and reflected Soviet models and preoccupations. It included the city's first ring road, a massive industrial development in Helwan to the city's south, and—easily its largest component—the construction of Nasser City, the first and far and away largest of the satellites, to its northeast. Initially developed by and for the militar[illegible] its suppliers, and other government facilities, Nasser City is now a very densely settled, thoroughly "modern" sector, housing a population of over three million, largely in high-rises. Although much derided by architects, Nasser City, with its boulevards and towers, actually approximates a city, with lively streets and the whole pervaded by a sense of completion and urban density.

The second master plan, prepared in the 1970s and identified with the Sadat regime, is called by some the "American" plan due to the sway of U.S. planners in its development. This plan included a second, outer ring road, and a group of five satellite towns all relatively far from the city and intended to be self-sufficient.

ALTHOUGH DERIDED BY ARCHITECTS, NASSER CITY, A SATELLITE, APPROXIMATES A REAL CITY TODAY.

The third master plan—this one under the influence of French experts—was executed by the Mubarak government and took a somewhat more sophisticated, more integrated approach, moving beyond simple policies of accommodating growth to a scheme based on planned depopulation. Prepared in 1983 and updated in 1990, this plan included additional work on the satellites, an attempt to redirect growth into an east-west corridor, and the initiation of planning for the homogeneous zones. It also sought to replace the clearance policies directed at informal housing with a strategy of "upgrading in place."

More recently, another shift has taken place. As with so many centralized economies in the post-Soviet era, the widespread privatization of industries formerly in government hands has had a dramatic effect on the environment. In Cairo, this has entailed a revision of the new-town strategy, favoring the market and its urban models and acknowledging the gr reserve of consumer demand for housing.

The results can be both surreal a familiar. Driving the ring road, heading east of the city, one is almost immediately in t desert. And it's a real desert that begins right the edge of town, sand stretching forever, blo ing across the macadam, ready to take ba everything should resistance dropped. The road pass through the vast City of t Dead (Cairo's legendary inha ited necropolis) and ski dreary housing blocks deployed on the glob grid. Soon the city disappears and all th remains are dunes and traffic.

Rounding a bend, a fantastical *fa morgana* heaves into view. Across the dese appears a large expanse of shimmering, appar tional emerald: a golf course, its gree manicured perfectly, its flags fluttering in t breeze. Stretching along the shores of th course stands a community of large, ve southern-California-looking houses, their roo red-tiled, walls pale stucco, decor meant evoke that vaguely Mediterranean feeling tha the Orange County architectural default. Lik Orange County, too, the community is gate and patrolled, with Beamers and Mercedes pok ing from the garages.

The young architect with whom I wa touring took me into this development to se the site he had recently purchased and on whic he was planning to build himself a house. looked like a typical American suburb in th


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A battle between tradition and modernity affects the form of the city, as well as the cultural and political landscape. A mostly secular government is often opposed by religious fundamentalists

process of becoming: streets, curbs, and sidewalks laid in, lot lines laid out, a random set of houses beginning to rise.

My friend lived in Zemalek, one of the most desirable neighborhoods in Cairo, a clutch of high-rises on an island in the Nile directly opposite the city center. I was curious why he intended to move from that very lively, very urban, very pleasant environment. Some of his motives—living in the same building as his parents, the desire to build—were understandable, others less so. For my friend, the suburban development on the city fringe offered, despite its lack of social and commercial activity and despite the long commute by car into town, a dream of freedom and an escape from the madding crowd of old Cairo. And the young architect simply loved the idea of a place of his own. When he spoke of the possibility of living in an environment of quiet, the idea assumed almost metaphysical overtones. Such feelings are produced by a culture of congestion.

"New Cairo," as it has come to be called, is the result of a planning policy that now seeks to join the partially developed new towns on the east side into a single, market-driven, physical and planning entity; similar plans are under way for new towns in the west. For the moment, though, the market is indifferent to the needs of anyone but the middle and upper classes. Despite its poverty, Egypt is awash in money—both its own and that of conservative Arab states that have long used Cairo as a playground and relief valve from their stricter morality back home. The government, eager to soak up as much of this cash as possible in Egypt, has encouraged privatization both in light of its own stretched resources and for sound macroeconomic reasons.

In the course of several days, I completely circumnavigated the city, looking at numerous developments on the fringe. An icon of the voyage was a roadside ad that appeared ubiquitously. Above a funky painting of Michelangelo's *David* was emblazoned the word "Concrete" (a men's clothing line, as it turned out). The signs, with their evocation of construction, strength, and the European exotic, could have just as well been advertising the buildings sprouting in the sands nearby and represented the same uneasy joining of influences. Indeed, the circumnavigation revealed the early stages of the growth of a culture of the edge that included detached fragments of the generic American exopolis—theme parks, car dealerships, shopping centers, and all the rest of the post-Disney urban apparatus.

THERE'S SOMETHING INSPIRING ABOUT CAIRENES' EFFORTS TO PLAN THEIR CITY, TO COME TO GRIPS WITH ITS PROBLEMS.

In a sense, this style of urbanism is the indigenous form of multinationalism and, like its predecessors, reflects the most influential urban model of its time. In looking back at the history of modern Cairo, the import and modification of such models—reflected too in the shifting sensibility behind the satellite towns—has been a crucial aspect of the city's growth. What's curious and perplexing is the success of a number of these models and their corresponding failure to influence their successors. Cairo is a fantastic urban museum and although we tend to focus on the glories of the medieval city, there's also a city that has embraced with great success a series of paradigms of modernity th might help guide its future.

Of course, as with all such models, th possibility for their incorporation is fraugl with associations of colonialism and privileg and *ancien régimes*. But there's something utter inspiring about the on-going efforts of Cairen to plan their city, to come to grips with its over whelming problems.

As in other megacities, Cairo's growt has been exponential and relatively recent. Th city is now home to over a quarter of th Egyptian population, including 40 percent of th urban population. The consequence is bot density and a certain familiar metropolitan dis tortion, a centralizatio of economic and cul tural resources and magnetic attraction fo success seekers of a classes. The fundamental question is whether a the despair, inequality, and failure of service that such gigantic cities produce can ever reall be redressed in place.

The answer, of course, is no: There' only one solution for megacities and that's t stop growing. It is a question of redirecting investment to divert the metastasis of opportu nity that accelerates the desire to come. The issue for physical planners is also a national one, the provision of housing—including especially types at the low end—in a volume of millions with the provision of a modicum of services. The issue for architects is not simply how to deal with the numbers but how to create environments that speak to both the aspirations and traditions of an extremely complex culture without prejudice for either old or new. ■





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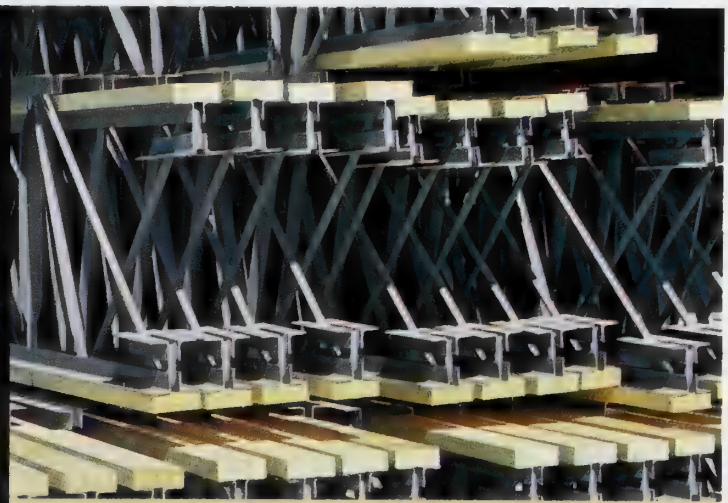


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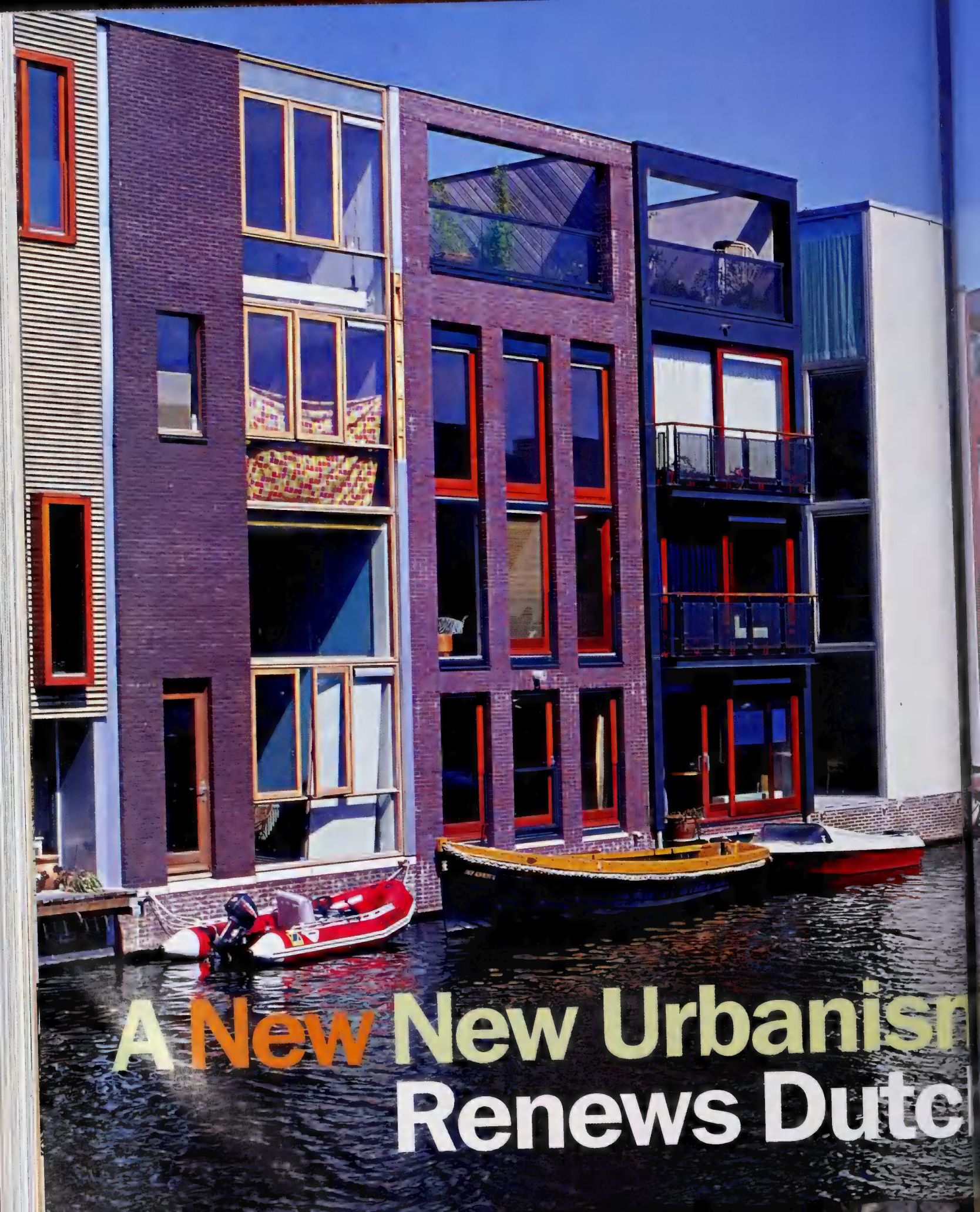
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A New New Urbanism Renews Dutch



The rebuilding of Amsterdam's Eastern Docklands area includes the two fingers of Borneo Sporenburg (right, in foreground) and the linked Java and KNSM islands (background). Individual architects designed single-family canal-side houses (below).



PHOTOGRAPHY: © NICHOLAS KANE (LEFT); COURTESY WEST 8 (TOP)

ocklands

By James S. Russell, AIA

From the air, it looks as if two meteorites have plunged into Amsterdam's new Borneo Sporenburg district, interrupting the bar-code pattern of its distended city blocks. The large structures are not cosmic fragments but apartment buildings, one of the willful gestures (a wide diagonal street, mowed through the blocks, is another) in this latest permutation in an 80-year-old tradition of Dutch urban-planning innovation. While the blocks of low-slung rowhouses don't obviously resemble the stepped-gabled quaintness of Amsterdam's historic canal-house districts, these made-over docklands have much in common with the picture-postcard Amsterdam everyone knows. The new project also speaks more directly to American housing dilemmas than does typical large-scale European housing.

Borneo Sporenburg represents only about one-third of an enormous redevelopment of the city's Eastern Docklands area—a once-abandoned landscape of warehouses, railroad sidings, and cargo cranes. Of the 17,000 new housing units nearing completion, those in Borneo Sporenburg are the most innovative, offering a vision of urban living attuned to the nation's shrinking household sizes, its greater wealth, and an unabated aspiration by many to live in the city's historic core or in a place with similar urban qualities.

The fundamental unit of Borneo Sporenburg is the single-family rowhouse. In Holland, individual dwellings account for a minority of the housing stock and do not form the predominant unit as in America. The urban design firm of West 8, of Rotterdam, laid out the two fingers of the island with 2,500 townhouses and floor-through apartments. The public spaces in the new development include a small, simply designed park and three





graceful pedestrian bridges that arch over th waterways to the other Eastern Harbor island West 8 principal Adrian Geuze has cut diagonal through this pattern, drawing the eye to urba landmarks, such as the spired central train sta tion and a monumental pumping station, a well as the gap where these inlets open to th larger harbor. Within the development, th skewed "meteorite" buildings serve the sam picturesque visual function as the imposin cathedrals or palaces of historic towns. (Unabl to avail himself of the programmatic diversit available to old towns, Geuze ordered up large courtyard-style apartment buildings.) Th development includes a school and specia housing for the elderly and the mentally dis abled. As a reflection of the nation's increasin wealth, only 30 percent of the units are subsi dized "social" housing (not long ago the typica percentage would have been 70 percent); th

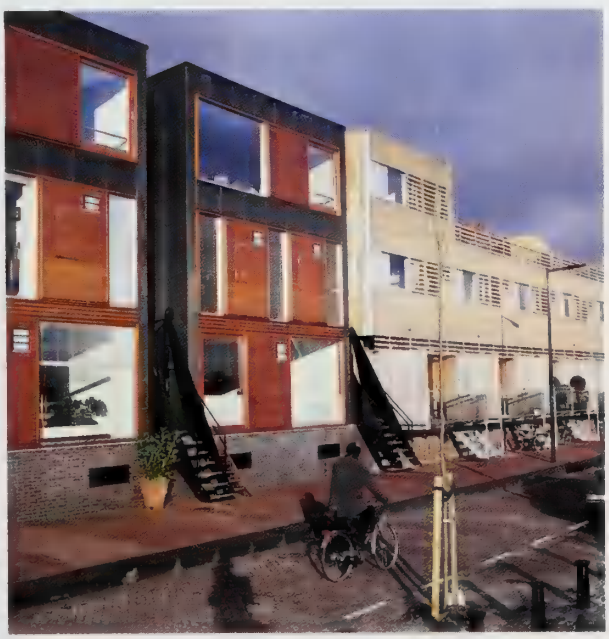




West 8 interrupted the pattern of the housing blocks with large-scale buildings (such as the one, right, designed by De Architecten Cie). The structure projecting into the water (site plan) was originally to be designed by Steven Holl. It will be completed by Kees Christaanse.

est are market rate.

West 8 charged the nine architects warded commissions here with reinterpreting he traditional canal house for contemporary eeds. The government mandated a density of bout 40 units per acre (100 units per ectare—unusually high by Dutch standards) nd a three-story height limitation. Instead of raditional stoops and microscopic back gar-lens or light courts, West 8 placed most of the iny 16½-foot-by-49½-foot lots back to back. No ear courts were required; instead, West 8's guidelines asked architects to carve out from 30 o 50 percent of the volume in section to form ight courts and outdoor spaces. The idea was o drive daylight deep into the volumes of the ouses, making smallish spaces appear larger nd taking advantage of water views, while naintaining privacy. Inventively designed crims, doors, and gates make palatable the



A few units face a canal (opposite top), but many more look across a narrow street to the water (left). Though housing is concrete-framed, wood cladding—a rarity until recently—has become popular because it is a renewable resource. West 8 designed the pedestrian bridge (opposite).



KAVEL 12

Architect MVRDV pushed the 8¼-foot-wide house volume to one side of the lot. While the scheme sacrifices straight-on views, the large glass areas facing the slot of space create an airy pavilion by bringing daylight into the length of the narrow rooms.







NORTH PIER END

These rows by Neutelings Riedijk wrap a front-to-back, one-bay-wide unit (projecting top floor, right) over a two-level, side-to-side one. The wide units feature a two-story-high living space (above) on the canal side (not shown). The architects took a more sculptural approach at the tip of the pier (middle right).



one-car carport (a relative novelty in Hollan that usually shares much of the street fronta with the entrance. Double-height spaces we mandated within canal-side units to draw lig and shimmering reflections inside. Some are especially those facing internal canals where pr vate waterfront access was possible, we designated for individual houses each designe by the buyer's own architect. Here architects ha lavished a profusion of forms—each jostling f attention amid a dizzying aesthetic din.

A new urban prototype?

Inevitably such an endeavor begs comparisc with efforts by the New Urbanists in America t create more compact, walkable communitie While such American Neotraditional develo ments have become, in effect, less privatize devoting more land to shared spaces, this ne Dutch model provides fewer public amenitie than is common in the Netherlands. As West 8 Geuze put it, you can't have high-density an private outdoor space and still have much roo for wide streets or parks. The street scale is civ lized in the Amsterdam development because i 40-foot width accommodates a single lane of c traffic, a parking lane, a bike lane, and generou sidewalks. The streets feel far quieter than virtu ally any American neighborhood, simply becaus the Dutch use cars less frequently.

There is less variety in the streetscap than West 8 hoped to achieve. The original ide was to have several dozen architects design mo of the housing, but to scatter the houses in row of 5 to 12 to avoid long, monotonous facade After the first 250 were built, however, developer petitioned the city to limit the choices to only th six most popular unit types. The inevitable resu is that some street fronts are lined with long, hor

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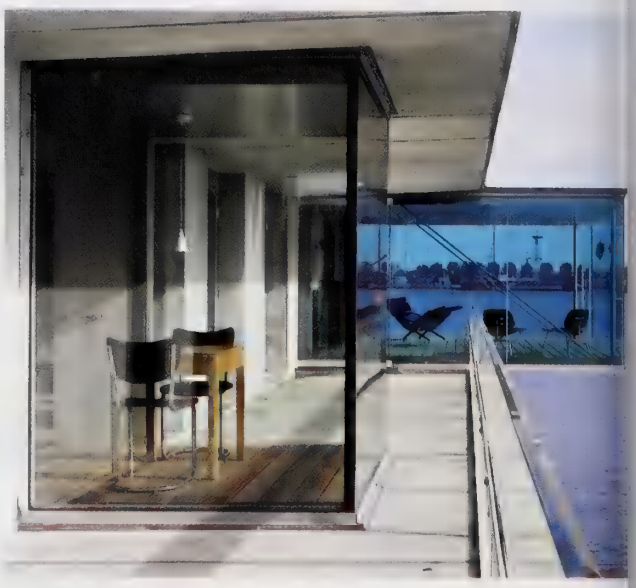
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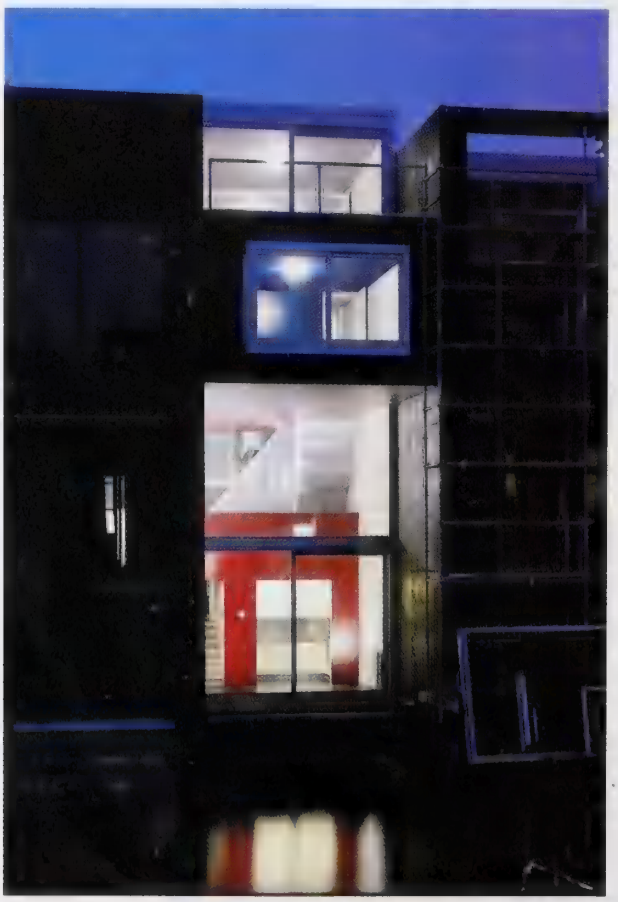
SOUTH PIER END

Making dramatic use of a superb site on the very end of the island, the Architectengroep cantilevered tinted-glass cubes from the body of the building, giving residents a sense of hovering over the harbor. The sloped ramp (left in left image) is for parking a car.



KAVEL 18

Among the most spatially intricate houses is Kavel 18, by MVRDV. The master bedroom is like a red one-story-high drawer (right, projecting volume visible as third level) slid partly into the shedlike main volume. From a double-height kitchen/dining area (with a shaded terrace on the canal), one continuous space snakes around and behind the master bedroom, wrapping over it to another bedroom.



izontally oriented, slablike structures rather than the fine-grained rhythm of vertical facades that West 8 had planned.

The appeal of the designs varies, from a gutsy scheme by Neutelings Riedijk (page 97) to fortresslike brick blocks prissily punched with slitlike windows. Still, the sensibility is surprisingly akin to the streets of traditional cities, in which an exuberant Gothic Revival townhouse tries to steal attention from the adjacent dour Romanesque brownstone. Because this is the Netherlands, where Modernism is the reigning design ethos, Borneo Sporenburg sports no gables, pilasters, columns, or entablatures. The streetside battle of styles tends to pit Neo Gropius against Neo Aalto. The rectangle is the key expressive element, deployed in arguably mind-numbing variety.

In America, New Urbanist dogma dictates the inclusion of neighborhood retail. Amsterdam signed an agreement with the developer of a nearby mall stating that retail stores would not be permitted amid the housing. "We were confronted with the strange idea that a street should not have shops or bars," says West 8's Geuze. Individual initiative will ultimately enrich the mix, he thinks. "In Holland, it's natural to start home-based businesses, so if you want to

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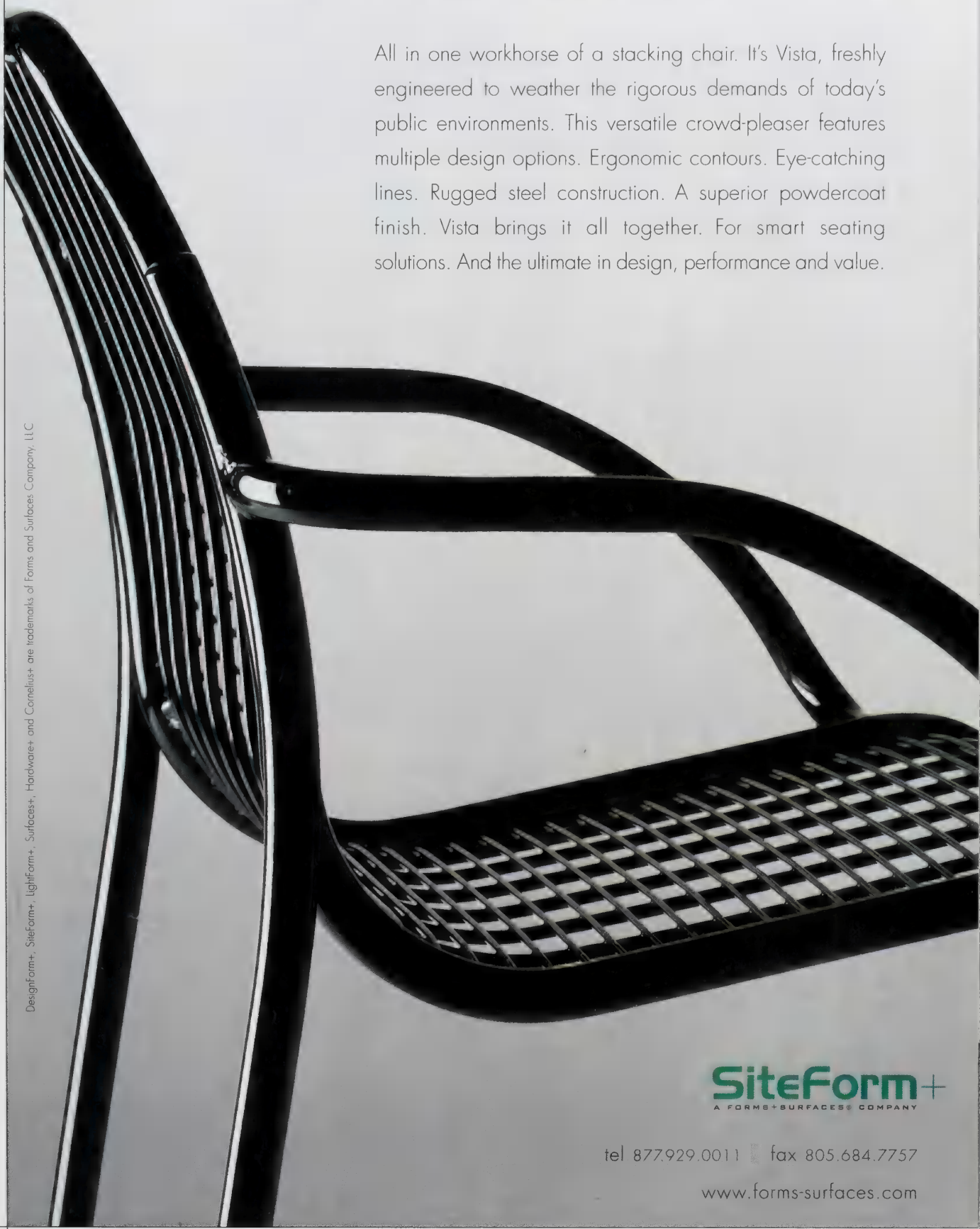
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work on your computer at home, display texti art you make, or start a daycare center, no one ca stop you." Indeed, street-level windows at Borne Sporenburg advertise a wide variety of Intern and non-electronic startups. Such projects we abetted by West 8 design guidelines, which mai dated taller ground floor heights to perm adaptation to various uses. Strategically place street-level spaces have been designed for conve sion to bars and cafes should regulations permi Most floor plans readily allow conversion of eve upper-level bedrooms into studios.

Most houses are tall rather than wid and tend to open up to light and views as you g up. The spatial gymnastics within the Borne Sporenburg no doubt feel liberating to thos who appreciate high ceilings and ample dayligh but such assertive, undivided spaces are probab best adapted to childless couples and empt nesters who seek in-town amenities. More prag matically, the fluidity makes the small or narro rooms appear larger.

Few American designers have face the Dutch dilemma of creating density wit amenity, but more are finding they need t learn how, as urban-growth boundaries an traffic woes drive people to small, in-tow sites. Too many American condos look as they had run aground on a sea of parkin "garden" townhouses offer cell-like, concrete paved spaces hemmed in by high fences. Th best New Urbanist developments face thes innate difficulties squarely, but in too many c them windows channel views to the livin room of adjacent units or onto sapling-dotte parking lots. The vinyl windows and syntheti stucco that have come to define builder house don't stand up to close scrutiny in dense devel opments, which emphasize the "neo" i Neotraditional.

Although the design of some of th Dutch units rightfully evokes guffaws, man skillfully navigate such conflicting needs as pri vacy and views. Doing density isn't easy, but th best of new urbanism, Dutch-style, makes convincing case that housing can indeed b reinvented for a new era. ■

VOS HOUSE

Architect Koen van Velsen faced both sides of the house with a grid of horizontal rectangles and carved away the mass behind them. Within this protective frame, the living spaces seem to project outward like branches on a tree. Floor-to-ceiling glass opens Minimalist platforms to the light and water.

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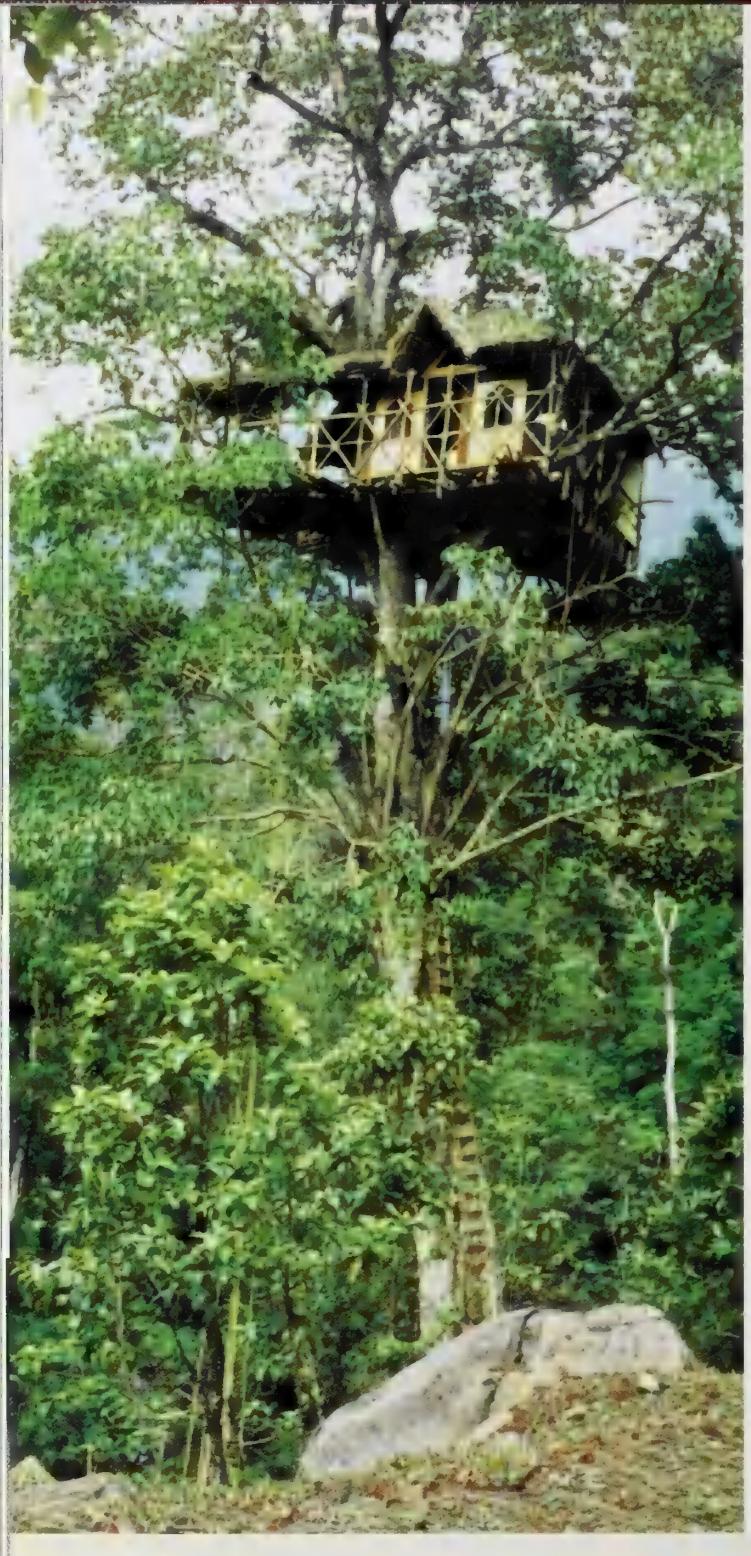
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FEATURE

Growing Wild and Branching Out

Treehouses

By Suki Casanave

Treehouses—those leafy hideaways we associate with childhood, the solitary escapes we dream of amid the pressures of the adult world—were once a matter of pure survival. Early treetop dwellings provided protection from enemy attack.

But throughout history, treehouses have also been inspired by pure pleasure or whimsy. The Romans were fond of seats built around tree trunks. And, from the Middle Ages on, lofty arbors were popular. One famous English specimen rose three stories with leafy rooms of bent branches one atop the other. It is thought that Queen Elizabeth I once stopped by for a royal feast in the second-floor banquet hall.

In the Italian Renaissance, the Medici family created extravagant treehouses in their gardens. One spectacle included marble seats, tables, fountains, and stairways spiraling around the trunk. In mid-19th-century France, a chestnut-lined street in a town west of Paris became famous for its treetop restaurants, where diners in gazebo-style rooms feasted on elaborate meals, hauled up in baskets by waiters below.

A 17th-century timber-framed cottage at Pitchford Hall in England is still perched in a garden lime tree. A 13-year-old princess, who grew up to be Queen Victoria, visited this one-room Tudor treehouse in 1832, noting in her journal: "We . . . walked about the grounds, and I went up a staircase to a little house in a tree."

Contemporary treehouse builders, from professional architects to backyard hobbyists to hoteliers in balmy climates, are still captivated by the idea of "a little house in a tree," designing their fantasies—and then settling in to enjoy the views. ■

Suki Casanave, whose work has appeared in Smithsonian, Yankee, The Christian Science Monitor, *and on PBS, is a writer based in New Hampshire.*



ired treehouses
his page)
cation: *Eureka, Calif.*
ecial features:
iraling up a live
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ee, these structures
ere originally erected
a fisherman.

eehouse hotel
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n hoist up supplies.









Tree-trunk playhouse
Location: *YMCA Camp Orkila, Orcas Is., Wash.*
Special features: *Hollow stump provides shelter from the rain and a children's story-telling hut.*

oreal structures
is page)
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ecial features: *High, ketlike huts were built the Sayak clan from owai.*

House
posite, top left)
cation: *San Francisco*
chitect: *Fernau & rtman Architects*
ecial features: *signed for* Up a Tree *hibit, featuring work San Francisco Bay ea architects.*

i's Nest
posite, top right)
cation: *San Francisco*
chitect: *Skidmore, wings and Merrill*
ecial features: *This stract, elliptical ucture was designed* Up a Tree *exhibit e above).*

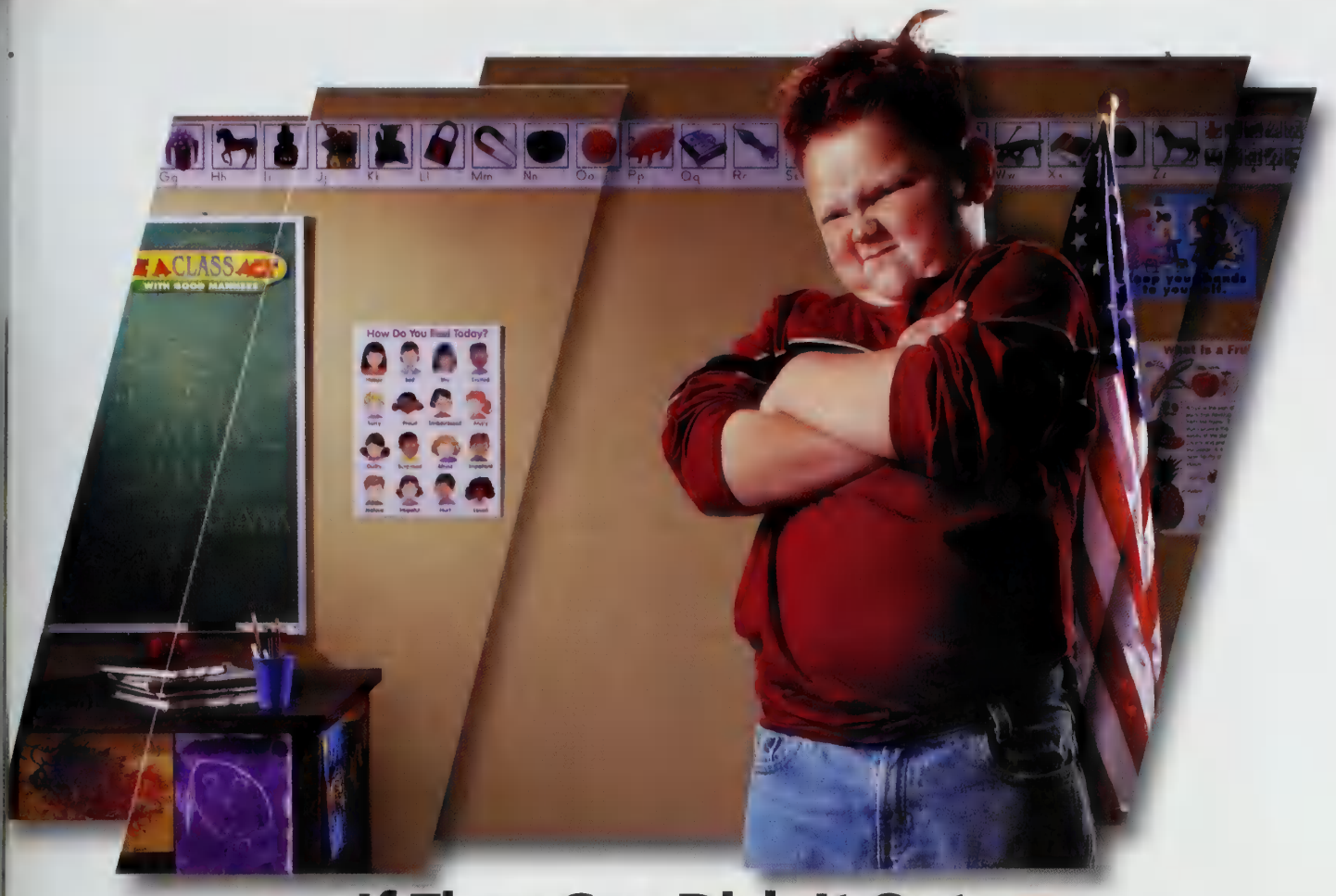








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Record Houses 2001

ach year, we approach RECORD HOUSES with an abstract and optimistic wish list: Variety, leaps of the imagination in materials and form, sheer elegance of craft and composition, and nd-sparking ideas are always welcome. Often we discover unexpected mes among the projects coming our way. Sometimes a compelling ncept finds an equally powerful counterpoint in another project.

Such counterpoints emerged this year among the four North nerican and three Japanese houses shown here. The geographic and ltural split may be unusual for RECORD HOUSES, but when we saw the ojects, it made sense. Reflecting a current running through the 2001 omissions, many of the American works selected respond to a vast ndscape: Julie Snow's Koehler House is perched on a cliff on Canada's st coast; ARO's Colorado House stands high in the Rocky Mountains; d Rick Joy's Tyler Residence lies low in Arizona's Sonoran Desert. Rather than dominate the natural settings, the houses work in harmony with them, favoring simple forms—boxes, parallel walls, and sheds, albeit refined ones—and extensive zones of transparency. In each, the architecture channels views, allowing extraordinary terrain to flow around, between, or even under the built forms.

e featured firms are:
ARO
Kazuyo Sejima & Assoc.
Julie Snow Architects
Atelier Hitoshi Abe
Rick Joy Architect
Shigeru Ban Architects
Wesley Wei Architects

But what about densely developed cities, and less glamorous suburban or agricultural zones? Some of the most interesting solutions to such conditions came to us from abroad, particularly from Japan, where building lots and household amenities tend to be sparer than in the United States, and where architects seem willing to push radical concepts to absolute limits. For a site in a rice-growing region, Shigeru Ban reenvisioned the agricultural shed, devising Naked House with translucent exterior walls—a building with mobile rooms, taking the notion of spatial flexibility to a provocative, but surprisingly livable, extreme. In Kazuyo Sejima's Tokyo Small House, the buildable footprint was tiny nearly to the point of absurdity. But the architect responded with a striking and inventive four-story structure. In spatial explorations beyond the house itself, both Hitoshi Abe's Yomiuri House, near Sendai, Japan, and Wesley Wei's Pennsylvania House, in a suburb of Philadelphia, deftly make their sites feel more extensive and secluded than they really are.

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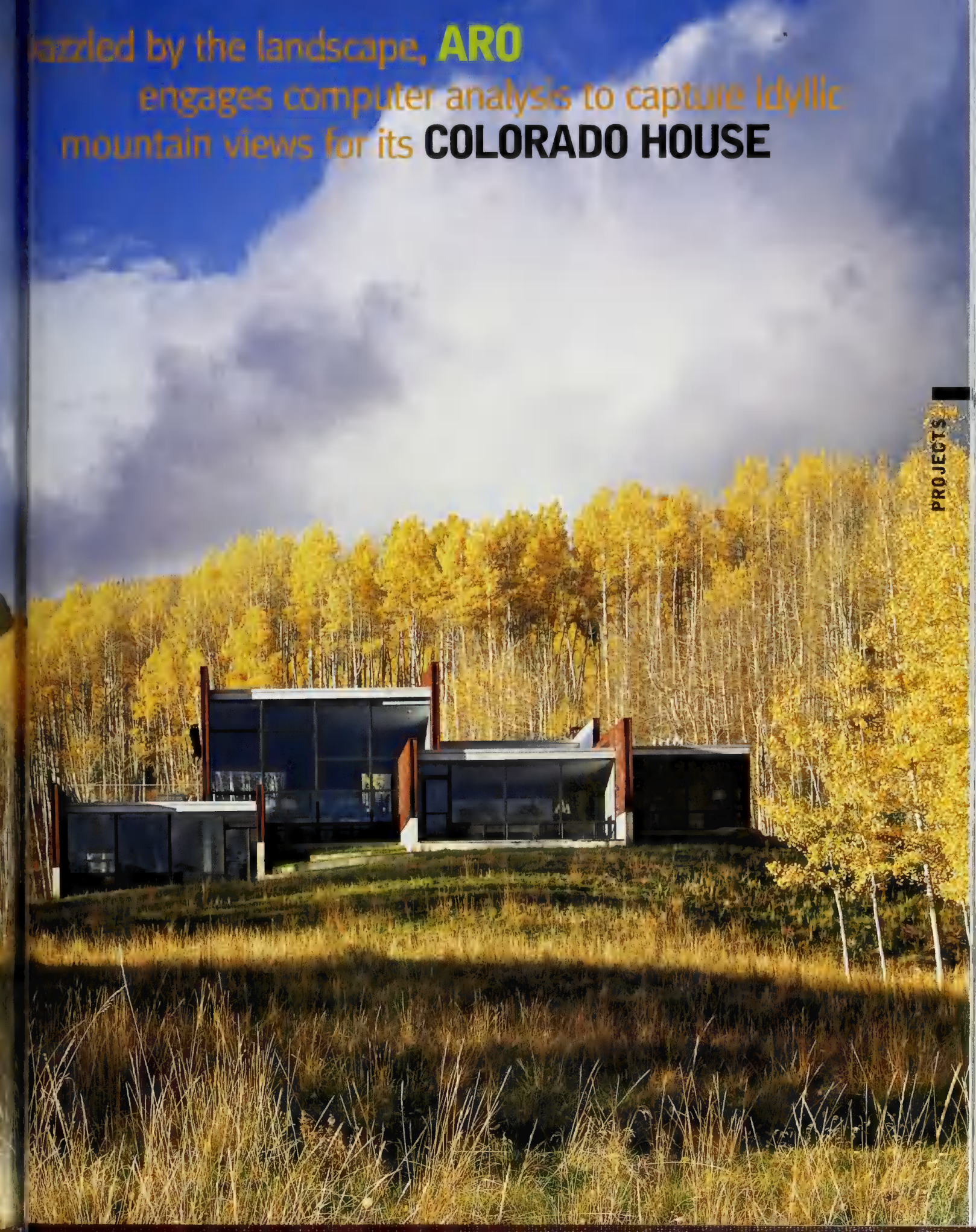

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7




Viewed head-on from the southwest, the house looks transparent and glassy, ceding to the landscape around it. Stepping down the hill with its massive parallel walls visible only at their edges, the building appears smaller than its 10,000 square feet.

Dazzled by the landscape, ARO engages computer analysis to capture idyllic mountain views for its COLORADO HOUSE





By Wendy Moonan

Perhaps only an architect with a background in biology would design a house by creating a computerized model of the site and its mountain landscape. But that is what Stephen Cassell, co-founder of the 18-person Manhattan architectural firm ARO, did when commissioned to build a 10,000-square-foot Colorado vacation house for a large family of bikers, hikers, and skiers. The architect, a Brooklyn native, flew out West to see the site (at a headache-inducing altitude of 10,000 feet), admired the San Juan mountains and untouched wilderness, and decided the site's chief assets were its commanding views. Then he flew home to figure out how to capture them.

He began by scanning into his computer topographic maps of southwestern Colorado, and ended up making a detailed wire-frame model of the 15-by-17-mile swath around the client's 120-acre parcel. His idea was to get the landscape into the computer to explore the views from the site.

ARO calls itself the Architectural Research Office because it was conceived as a laboratory for architectural inquiry. Here, the brief was relatively simple: The client, a couple from the Midwest with grandchildren, wanted large spaces to gather, as well as five bedrooms and other intimate quarters where each family member could retreat. The most dramatic vista was toward the snow-capped Sneefles range, around 20 miles to the northeast. To give several rooms that prime view and break up the massing house steps down a knoll. The architects designed four volumes, each on different level with tall window walls facing the Sneefles. Then they essentially slid the volumes between massive parallel walls, clad in Cor-Ten steel

The computer model informed the entire process, calculating sightlines and even charting the passage of daylight through the house. "It took a lot of massaging," Cassell recalls, "raising the kitchen ceiling a foot so you would see more sky above the Sneefles, and lowering the master bedroom to show more of the Sneefles from the living room." Through the computer, ARO positioned the upper mullions in a Golden Mean-derived pattern, with slight adjustments to leave certain vistas uninterrupted.

Largely generated from the inside, the house was designed around a series of unfolding views. Cassell says he took inspiration from English landscape gardens he'd studied in college, after switching his focus

Wendy Moonan is the architecture editor of House & Garden *and a frequent contributor to* ARCHITECTURAL RECORD.

Project: *Colorado House*
Architect: *Architectural Research Office (ARO)—Stephen Cassell, Adam Yarinsky, partners-in-charge; John Quale, project architect; Scott Abrahams, Matt Azen, Tom Jenkinson, Monica Rivera, Martha Skinner, Kim Yao, Innes Yates*
Landscape architect: *Mathews/Nielsen*
Engineers: *Buckhorn Geotech (structural and septic); Burggraaf (MEP)*
General contractor: *Fortenberry*







The house's form and massing appear to change from different vantage points (this page and opposite). From some angles, windowless stretches of overlapping parallel walls, clad in Cor-Ten shingles, look like an abstract sculpture in the landscape (left).



The communal spaces center around the fieldstone fireplace that separates dining and living areas (left and below). Carefully framed, the views also dominate the interior (bottom and opposite).



1. *Kitchen*
2. *Dining*
3. *Living*
4. *Sitting*
5. *Master bedroom*
6. *Bedroom*
7. *Library*
8. *Garage*
9. *Terrace*







om molecular biology and biochemistry to architecture and design. As in nglish gardens, he explains, "I didn't want to give it all away at once."

Thus, the entry area offers only a small glimpse of the Sneefles. rom the kitchen, a bit more comes into view. Then, in the living room, a igger-than-a-movie-screen panorama appears, with meadows, aspen, nd, in the distance, the great jagged peaks. This va-voom view changes s you descend from the entry to the master bedroom, and a few feet fur- ner down to the library/media room. Each window offers a different take. The parallel walls were a way to organize the view," explains Cassell. Like linders, the walls focus your gaze forward from within the house.

From the exterior, it's nearly impossible to get a fix on the whole ouse. Even reaching it isn't easy. The approach follows an eight-mile dirt oad, culminating in a private drive with treacherous switchbacks, climbing hrough forest to an aspen-covered mesa. The building isn't visible until the ast moment, when the drive emerges from the woods. Suddenly, just 20 ards away, the house appears with a straight-on view of the entry. From the outhwest, it looks single-storied and glassy, barely revealing the handsome Cor-Ten-sheathed walls, which from other angles become abstract sculp- ures of overlapping planes. Only from the inside, as you descend through he spaces, do you comprehend the house's tremendous size.

In plan, the hub of the house is the kitchen, where the family tends o gather. The living and dining rooms, an outdoor dining court, and two bedrooms spin off in different directions as if by centripetal force. In the corners of the interlocking volumes, stairs with elegant, shot-blasted stainless-steel railings drop between the heavy walls. Where terraces weave exterior with interior spaces, some Cor-Ten-clad walls extend from the outside in, and some plaster interior walls continue outdoors as concrete.

The materials are restrained but tough. Great care was lavished on the Cor-Ten shingles. Reminiscent of the area's abandoned mining structures, the material, remarks Cassell, "paradoxically looks natural in this landscape." After testing many shingle dimensions and patterns, in consultation with Zahner, the metal-fabricators for several Frank Gehry projects, ARO specified a parallelogram, laid out in intentionally misaligned courses, producing a stagger with directionalilty, says Cassell, "like a hill." Preweathered on-site for six months, the shingles have a warm reddish patina.

Given such a site and a $4 million budget, some architects would have designed a gigantic Colorado-style log cabin, or perhaps a ski palace. Not Architectural Research Office. Here, the path of inquiry led to a modern house that brings qualities of a mining town into the 21st century. ■

Sources

Siding: *A. Zahner Company*

Stone: *Montana fieldstone (chimney), New York bluestone (pavers)*

WWW For more information on the people and products involved in this project, go to Projects at **www.architecturalrecord.com**



The spiral stair plays against the lilting facets of Small House's outer skin (this page). Providing privacy as needed, the elevations differ in opacity (this page and opposite).

On a tiny lot in downtown Tokyo, Kazuyo **Sejima** shapes a sculptural jewel, aptly named **SMALL HOUSE**

Naomi Pollock, AIA





Some Tokyo houses are merely small. Others are so tiny they raise the question: How much space does it really take to make a home? In this city, where no minimum buildable lot size exists, the swer is: Not much. Here, the demand for property is so eat and real-estate values so high that people will build just about any footprint. And many residential lots rink further when the city's stringent setback and adow regulations are added to the mix. In designing nall House, Kazuyo Sejima had to squeeze a dwelling for product designer, his wife, and their child onto the 388-uare-foot buildable area of a 646-square-foot lot. The allenge was practically like performing a magic trick.

Comparatively speaking, though, Sejima's site me with surprisingly few restrictions because of its mmercial character in the center of the city, where fash-nable boutiques abut exclusive restaurants. Not exactly e stuff of peaceful domesticity, but in Tokyo, residential ockets often form where least expected. At the end of a iet cul-de-sac, Small House shares its relatively well-to- street with low-scale apartment buildings, houses, and ops. Given the site parameters, most Tokyo architects ould have started by calculating the permissible build-g envelope and then designed from the outside in. This rategy explains the unusual configurations of many Tokyo houses, but ot the lilting shape that Sejima created here.

From the outset, Sejima—who is currently working with Ryue ishizawa on an art museum for Kanazawa, Japan, and on the Toledo Ohio] Museum of Art's Glass Center—thought the building should be a nique-looking response to its extreme site conditions, but she also saw it an expression of her personal brand of form follows function. The ape, she maintains, resulted from the exigencies of the slabs and walls.

"I felt uncomfortable dividing up already small spaces," she says. ccordingly, the architect assigned only one or two uses to each of four oors: The bedroom, where the parents and four-year-old child sleep on futon, and a lavatory with a shower occupy the half-basement level; the ain entrance and the daughter's future bedroom (currently a family room) fill the first; the prime gathering area—for cooking, living, and dining—is on the second; and, as per the clients' request, a bathroom with a deep soaking tub and city views shares the third with a covered terrace. Instead of separating rooms with walls, Sejima lets a white spiral stair do the job.

The four levels—totaling a mere 829 square feet—were not, however, created equal. Varied in size, the floors do not always fill the allowable area, nor do they align with one another. Budget constraints were a factor, but, more important, Sejima says, she tailored each slab's dimensions and floor-to-ceiling height to meet functional requirements—and achieve hierarchy. Thus, the second level soars to an 11-foot-high ceiling, befitting its importance as the prime gathering place. "Every other slab is smaller and cannot project beyond this one," she explains. As if sliding horizontally about the spiral stair, each floor defines different-sized open spaces around this fixed vertical element. Where room was needed to fit a galley kitchen, the architect pushed the slab out toward the property line; where less space was required for semi-submerged sleeping quarters, she pulled the finished floor in from the site line and turned the remaining outdoor square footage into a sunken patio, albeit a miniature one. Elsewhere, the architect similarly put leftover buildable area to good use: Cinching in the first-floor bedroom, for example, freed up enough space in front of the house for an off-street parking spot—a must for Tokyo car owners.



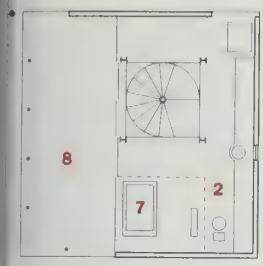
Responding to exterior and interior conditions, the architect

Project: *Small House, Tokyo*
Architect: *Kazuyo Sejima & Associates—Kazuyo Sejima, principal; Yoshitaka Tanase, Shoko Fukuya, project architects*
Engineers: *Sasaki (structural)*
General contractor: *Heisei Construction*

aomi Pollock, AIA, is ARCHITECTURAL RECORD's Tokyo-based correspondent.

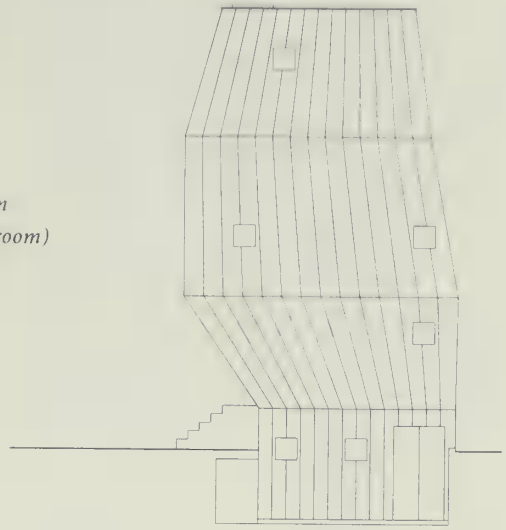
Where the house faces an unbuildable lot, it appears most crystalline, glowing from within at night (page 120) but becoming more demure by day (this page).



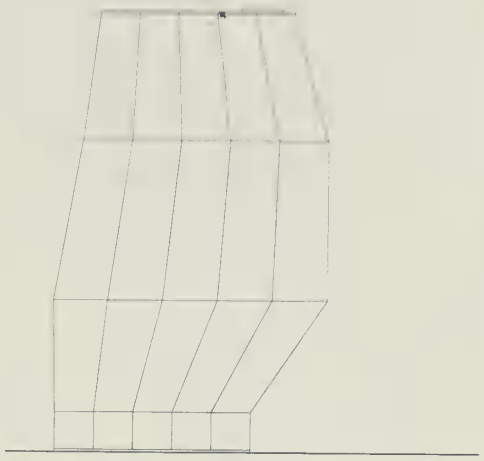


THIRD FLOOR

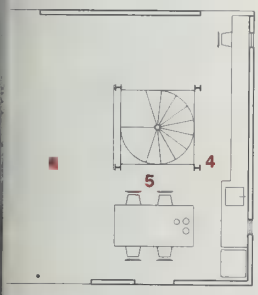
1. *Bedroom*
2. *Lavatory*
3. *Family room (future bedroom)*
4. *Kitchen*
5. *Dining*
6. *Living*
7. *Soaking tub*
8. *Roof terrace*



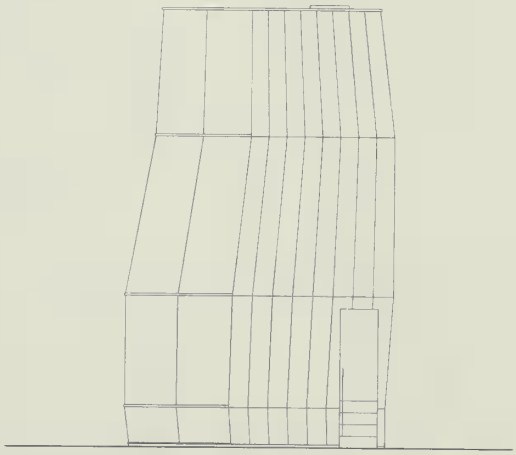
EAST ELEVATION



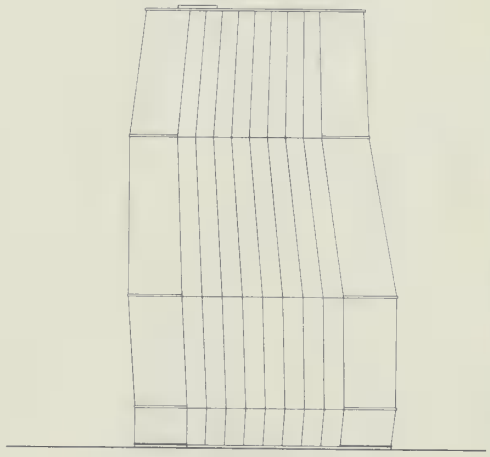
WEST ELEVATION



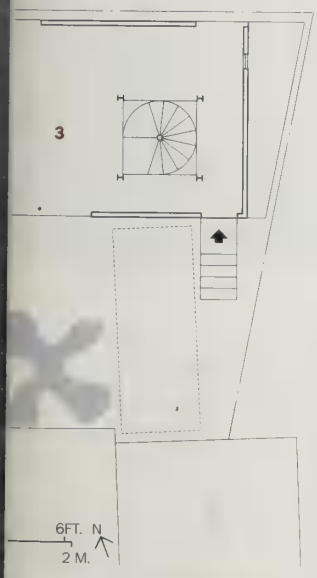
SECOND FLOOR



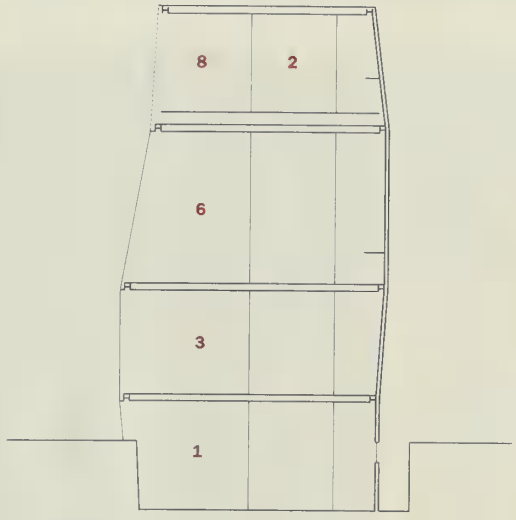
SOUTH ELEVATION



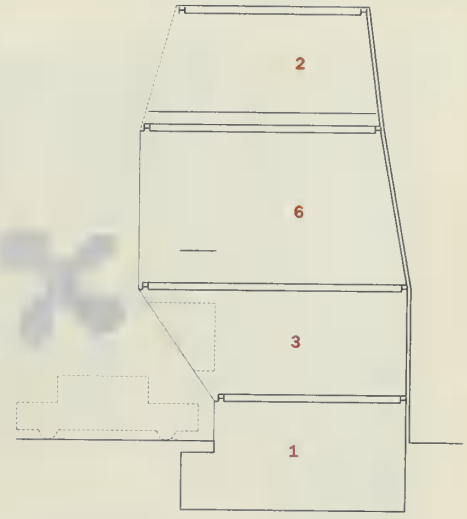
NORTH ELEVATION



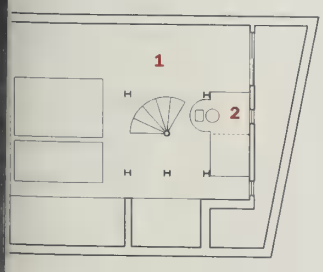
GROUND FLOOR



WEST/EAST SECTION



SOUTH-NORTH SECTION



HALF-BASEMENT

Like flow lines in physics, the vertical seams on Small House's galvanized-standing-seam-steel-and-glass elevations respond dynamically to changes in the building's overall sculptural shape. The elegantly Minimal exterior entry stair (top, left) appears in the actual building as a thin zig-zag in cast concrete.









The spiral stair plays a key structural role. Its powerful sculptural presence varies from floor to floor, in relatio to the outer skin's proximity, shape, and transparency—as in th dining area (opposite and below, right) and the family room (above The living room is visible (far left) from the entry facade, through a square opening in the translucent film.



esigned the slabs and exterior walls in tandem, which involved jockeying ack and forth until she found the right dimensions, angles, and overall uilding shape. The tilting, faceted outside walls, shifting constantly etween upward and downward orientations, not only define the house's nique profile, but also change the quality of light and view for each oom. With angled surfaces of standing-seam galvanized steel and clear or anslucent glass panels, each face was carefully orchestrated to maximize ne connection to the outdoors without compromising privacy—no small eat when the house next door is barely two inches away.

To achieve this balance, Sejima punctured the opaque walls with penings carefully positioned to control views in and out. She also cut lear areas within the glazing's translucent film and provided square, inged windows, just big enough to let in fresh air. A second-floor door llows entry of furniture hoisted up by pulley. Where the house fronts an nbuildable lot (one without street access), the elevation becomes crys- alline. Here, glass wraps both corners but aptly turns translucent where he building greets the street. Through the clear zones, distant views of the hinjuku business district's skyscrapers make the interior seem bigger.

Despite the house's diminutive size, its unusual geometry called or a fairly complex tripartite structural system. The first component built vas a square enclosure for the spiral stair. With vertical and diagonal steel ars, this encasement acts as a single column, countering horizontal shear and earthquake forces. Next came a web of steel rods at the house's perimeter to carry vertical loads. Composed of elements no more than two inches in diameter, the entire web was "spun" on-site in three days. Partially cantilevered off the stair enclosure, four concrete floor slabs tie together the two steel systems. But because it was necessary to pour and cure each slab individually, construction took ten months or, muses Sejima, "about as long as a 30,000-square-foot office building."

With space for a sofa and not much else in the living room, and a dining area defined by a table and chairs beside the kitchen, this house pares down to a minimum the necessities of daily life. But in Tokyo, where such spare living is not unusual, it works. Here, many homes are very small, but most are so private, regardless of size, that people rely on urban resources to expand their own spaces: Parks are everyone's backyards, cafes—not living rooms—the places to socialize, and the ubiquitous convenience store acts as the city's pantry. What Small House may lack in square footage, this sculptural gem more than compensates for in bold, visual impact. ■

Sources
Cladding: *Galvanized steel*
Floors: *Cherry wood*
Oven: *AMG (electric)*

WWW For more information on the people and products involved in this project, go to Projects at **www.architecturalrecord.com**

The two-level house is anchored in a staggered formation (opposite) to a granite cliff above the Bay of Fundy, where no other house is in sight.



Julie **Snow** channels a calm Modernist ensibility into the **KOEHLER HOUSE** on a cliff over the turbulent Bay of Fundy

Suzanne Stephens



If you want to find a stunningly craggy site that looks more Maine than Maine, keep going Down East (actually north) on Maine's raggedy coast until you come to New Brunswick, Canada. There, overlooking the Bay of Fundy, near St. John, is a piece of rocky astline so powerful it makes Maine look as tame as Malibu. This qual- instantly struck David and Mary Beth Koehler of Minneapolis. The cently retired couple (he, a financial training consultant; she, a labor bitrator) scavenged Maine for three summers seeking a site for a vaca- n home, before finding 55 acres with more than a mile of waterfront, miles from the Maine border. Here, in this eastern Canadian province,

IT'S A BOLD OCEAN," SAYS SNOW. NO LANDFORMS ON THE HORIZON."

e still sparsely settled landscape of granite cliffs, spruce and pine trees, d high (25-foot) tides afforded ultimate privacy with a staggering norama of the water. Living in a city apartment, so far from a real ach, the Koehlers (who also own a lake house in Wisconsin) were will- g to travel a full day by plane and car for this ocean view. But they nted that view uninterrupted. As David Koehler puts it, "We don't have other house within sight of our place."

"This is what we call a bold ocean," says Julie Snow, FAIA, princi- l of the Minneapolis firm Julie Snow Architects. "There are no ndforms on the horizon." Snow and her clients were equally bold in plac- g the house on a granite ledge overlooking the sea. With no setback quirement, the house stands less than 100 feet from the average high-tide ark. "We enjoy being on the water," says David Koehler in something of understatement. Watching minke whales cavort in the briny deep, buf- head sea ducks drift by, and bald eagles soar overhead, the Koehlers have ly a few reminders that they are on land—or actually, rock. When they nt to take a dip in the icy waters, they go on a half-mile trek to a small, hite-pebbled beach, also on their property.

With this kind of natural site, Snow wanted to create a small 680-square-foot) house that would open up to the views and also pro- ct its occupants. While her aim was to convey the feeling of being at sea, e eschewed any literally nautical motifs.

The quiet, rectilinear scheme is evocative of the pure, early days mid-20th-century Modernism, when vacation houses were small, effi- ent, open-plan affairs with no need for three-person kitchen staffs and four-car garages. An architect known for her straightforward Minimalist designs, Snow found her clients ideal: Mary Beth Koehler had even been keeping a file on Mies van der Rohe's Farnsworth House to show her architect. But whereas the Farnsworth is a single-story structure floating above a grassy meadow in Plano, Ill., Snow's solution is very much part of its rocky site: She stacked two rectangular forms, one atop the other, aligned along an east-west axis, and slid the uppermost volume back to the west. At the east end of the house, where the grade drops, she created a daring cantilevered effect for both levels, supporting the structure with slender (almost spindly) square wood columns. "I wanted to create a feel-

Project: *Koehler House, New Brunswick, Canada*
Owners: *David and Mary Beth Koehler*
Architect: *Julie Snow Architects—Julie Snow, FAIA, Benjamin Awes, Connie Lindor, Lucas Alm, Ken McQuade, Jim Larson, design team*
Engineers: *Campbell Comeau; John Johnson*
Consultants: *Jack Snow (mechanical); Ed Young (building construction)*





ing of a house being both anchored in the site and floating—connecting with the horizon," says Snow.

With dramatic south-facing ocean views, the east end's upper and lower decks give the sensation of being on a boat, accentuated on the lower level by a cedar ceiling and spare, stainless-steel railings, and on the more perilous upper deck by the absence of a balustrade (caveat navigator!). At the house's more landlocked west end, another second-level deck becomes a private screened patio adjoining the master bedroom.

With extensive, sliding, floor-to-ceiling glazing, the interior of this largely transparent house offers much the same experience as being on its decks (without the wind—or with ample cross-ventilation, as desired). Here, living, dining, and cooking areas share a single space. Though the kitchen occupies the middle zone, it hardly shows, composed of two freestanding maple-and-solid-surface cabinets, 9 feet 8 inches long

"I WANTED TO CREATE A FEELING OF A HOUSE BEING BOTH ANCHORED AND FLOATING," SAYS SNOW.

and 3 feet high, containing the refrigerator and all the other appliances. Facing each other, these cabinets provide a true working kitchen without obstructing the views.

The double-height living area is given a sense of enclosure by the bluestone north wall with a fireplace, and the maple-clad western wall, behind which a trim stair leads up to a sitting area and the master bedroom. The character of a sailing vessel pervades the house, not only in its compactness, but also in the precision of its crafted wood detailing. In addition to the fine-tuned kitchen cabinetry that can stow and batten down nearly all the culinary workings, sliding wood pocket doors in the two bedrooms can turn these glassed-in pavilions into sleekly enclosed cabins.

To evoke the serenity and sense of comfort of an earlier Modern moment, the Koehlers judiciously selected classic furniture by Mies and Le Corbusier, and a lamp by Calder for the living and sitting areas. Translucent fabric curtains can be drawn over the window walls. For all its apparent lightness, however, the house must withstand severe weather conditions, including 18-inch snowfalls and 60-mile-per-hour winds. So,





The clean lines of the two-story house allow it to fit into its site unobtrusively (above, left). The wood frame house, with Douglas fir columns and concrete foundations, is partially clad in bluestone. The open deck (far left) adjoins the dining area at the eastern end. The entrance, on the north side, is beside the hearth (left); the double-height space is lowered by a catwalk edged by a balustrade with a metal screenlike fabric panels.



The living/dining room is divided by an open kitchen with cabinets kept to a height of three feet so that views are unobstructed.







SECOND FLOOR



FIRST FLOOR

1. *Entrance*
2. *Living*
3. *Kitchen*
4. *Dining*
5. *Dining deck*
6. *Guest room*
7. *Sitting*
8. *Master bedroom*
9. *Screened porch*
10. *Catwalk*
11. *Top deck*

what keeps it from capsizing? To resist horizontal wind shear, Snov designed floor and roof plates with wood trusses and plywood membrane Steel pins and a poured-in-place concrete foundation anchor the two leve to the granite rocks. The second level also hooks into the steel-reinforce chimney and a return wall beside the stacked bathrooms. Although th bathroom-core walls resist some vertical shear, the architect's horizont solution minimizes the need for additional shear walls.

Initially, the Koehlers planned to be in the house only durin the milder months, but they turned up this past January to experienc their new place with snow all around. On a sunny winter's day, the liv ing room felt much like the solarium of an ocean liner, only mor private. Looking out toward the solitary rugged cliffs and the se beyond, David Koehler mused: "You start to feel as if nothing ha changed since the French explorer Samuel de Champlain sailed th Fundy coast almost 400 years ago." ■

Sources

Sliding aluminum doors and windows: *Arcadia*

Solid surface countertops: *Kewaunee (Kemresin Lite)*

Lighting: *Flos*

Bath and kitchen fixtures: *Kroin*

WWW For more information on the people and products involved in this project, go to **Projects** at www.architecturalrecord.com

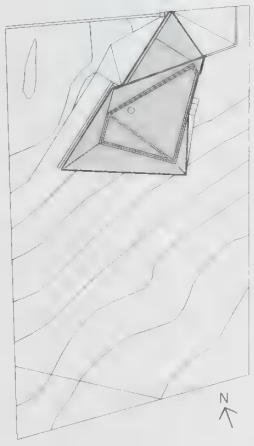




The light-covered porch projects from the forest (right and opposite). The building's "folded" form changes dynamically from one side to the other in elevation: here, from the southwest (right) to the east (below).

As if folding a long ribbon into the forest, Hitoshi Abe weaves a poetic, light-dappling architecture with his YOMIURI HOUSE

By Robert Ivy, FAIA



Paradisic might describe the trees and mountain property where Hitoshi Abe's clients, a couple from the city of Sendai, asked him to build them a weekend retreat. Near an extinct volcano in the Zao area, the land abuts a national forest—the setting for the owners' treasured walks in the woods. Visually separated from other homes and extending from the road into the woodland, the leafy site allowed the architect to design a strong, compact vessel that is both house and, as he puts it, "a second landscape."

A folded ribbon provided the generating idea. Abe's conceptual analogy is the kimono, which, when unfurled, forms a long swathe of cloth. "As you wear it," he suggests, "it projects a landscape over your body." Here, the program, the passage through the house, the details, and the confluence of spaces are like a ribbon folded onto the land, generating a conversation between landscape and occupants.

In this medium, every architectural element of the carefully controlled ensemble points away from the road and toward the forest: In- and outdoors merge. Apertures open from the tight enclosure toward the trees in a precise, directional manner; high windows throw slots of measured sunlight onto the side walls. Mullioned glazed doors link inside and outside. The wedge-shaped porch with its overhanging roof reaches prowlike into the trees. Horizontal louvers along the porch filter daylight and cast shadows like the forest.

While the actual size of the house is only 1,850 square feet, the interior seems as powerfully hewn as a cave, due in part to its focused plan. A large central space allows the couple to entertain their grandchildren or up to 30 guests at parties or small conferences for the husband's advertising business. Hidden behind movable walls, a non-intrusive kitchen and other support areas can open up or fold back out of sight. Furnishings are spare. The upper level, including traditional Japanese tatami rooms with shoji screens, ring the gathering space below. Everything points outside.

The sensuous use of materials reinforces the forest setting. A charcoal stain renders the multi-hued sugi-wood siding—a Japanese pine that is equivalent to cedar in its chromatic variation—almost black, allowing the house to meld with the shadows of the silver-barked trees around it.

Mounted diagonally in wide boards with occasional narrow battens, the siding seems quintessentially and traditionally Japanese in texture and coloration, yet its pattern and application are abstract and contemporary. Here, the stained siding not only appeals to the senses, but the wood grain and diagonal patterning suggest the sinuous lines of a ribbon.

The generous scale of the wood grain and details contributes to the small building's relative heft. In addition to the broad wooden louvers of the advancing porch prow, unstained, tightly spaced ceiling slats seem to float over the living area, separated from the walls by recessed acrylic-

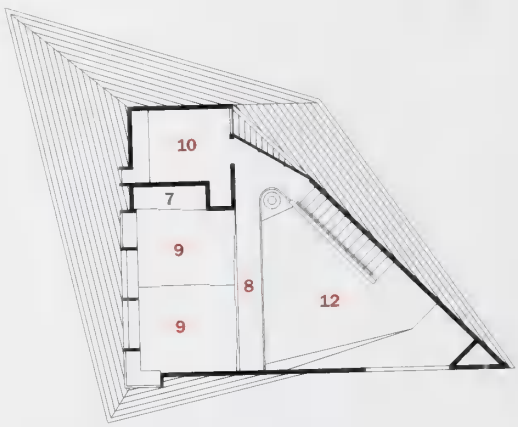


Project: *Yomiuri Guest House, Zao-cho, Miyagi, Japan*
Architect: *Atelier Hitoshi Abe*
Engineers: *T.I.S. & Partners (structural); Sogo Setsubi Keikaku (mechanical)*
General contractor: *Sugawara Construction*

1. *Dining*
2. *Living*
3. *Kitchen*
4. *Dressing*
5. *Bath*
6. *Laundry*
7. *Storage*
8. *Mezzanine corridor*
9. *Tatami/bedroom*
10. *Study/bedroom*
11. *Porch*
12. *Open to below*



SECTION



SECOND FLOOR

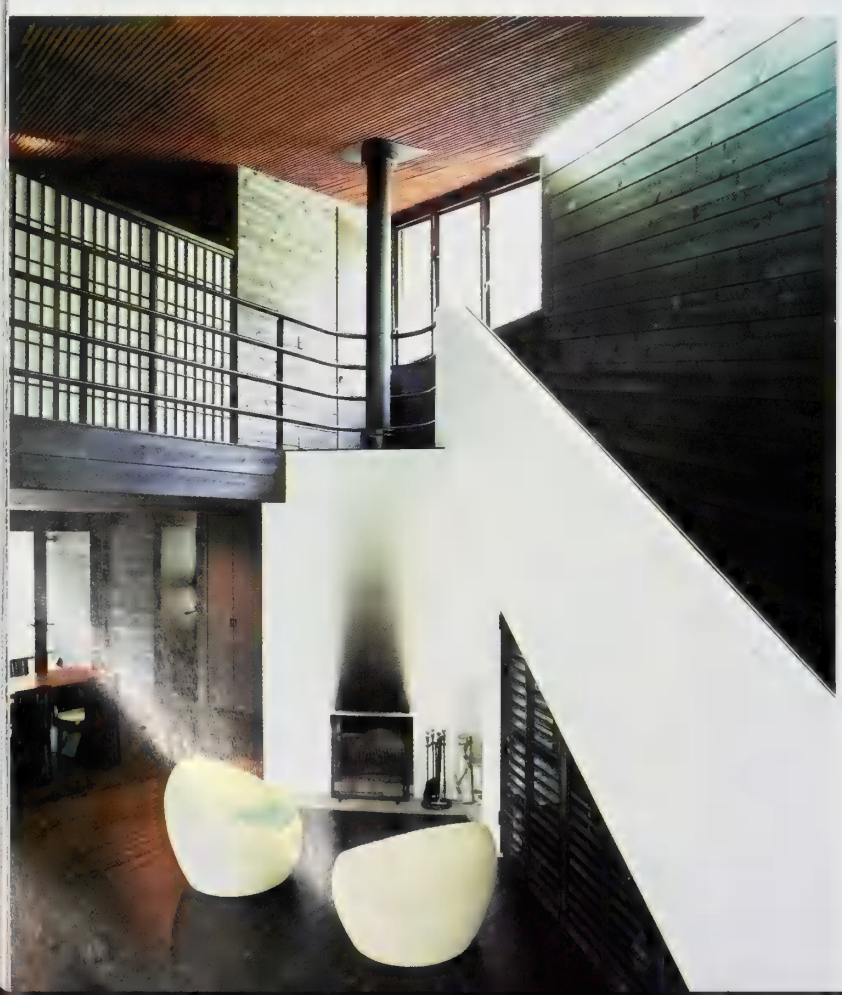


FIRST FLOOR



On the texturally rich interior, broad, blackened wallboards contrast with narrow, unstained ceiling slats, while shoji screens on the upper level play against the louvered doors below.





sheet light troughs. In contrast to the smoky walls, the stair rail consists o a great, white slash of painted wallboard. The plan pivots around th metal chimney flue, which acts as a linchpin.

As dynamic as a folded ribbon, both rich and restrained, th Yomiuri House comments on Hitoshi Abe's place in the universe o Japanese architecture. Conversant with international design issues interested in the effects of new media, he represents a young generation of Japanese architects that has been educated abroad—in his case a SCI-ARC in southern California. As he sees it, human beings are constantly seeking reconnections to nature. Like traditional Japanese buildings, this small structure evokes its culture's essential attunement to artfully conceived and deployed materials. Yet unlike the work of previous generations, the bold, tectonic expression seems individualistic and indicative of Abe's personal connection to the contemporary world—the building seems to filter the culture as leaves filter light in the forest near Zao.

The Yomiuri House gives three-dimensional expression to Abe's underlying hope. As he says, "I am trying to build an architecture that works like a medium, connecting you with the outside world—a way to bring you to paradise." ■

Sources

Exterior cladding: *Sugi-wood board, blackened with Xyladecor*

Roof: *Sumitomo Metal Industries (built-up aluminum-zinc alloy plate)*

Climate control: *Colona*

Fan: *Mitsubishi*

Bathroom: *Inax (tub); Toto (toilet)*

Furniture: *Wanimokko*

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The dynamic triangular form of the living/dining area, culminating with the chimney (opposite, top and bottom) echoes the powerful prow of the louvered porch (this page).



Low-slung, pitched roofs echo the mountain forms (above). The steel cladding (weathered, as Rick Joy points out, "courtesy of acid rain") changes hue with the light, resonating with the red desert sands.



Clad in weathered steel, Rick Joy's TYLER RESIDENCE resonates with the deep red earth of the Sonoran Desert

By Sarah Amelar



As you approach the Tyler House, on a knoll covered with wild mesquite, surrounded by desert mountain peaks, the buildings rise into view. Beyond a gravelly garden studded with cacti, two volumes appear, their deep eaves hovering just above the ground and their glazed ends revealing only the tops of the master bedroom and a study in one building and a workshop in another. Clad in rusted steel, these structures are taut and rough-skinned—like lizards, lying low but light on the land, barely touching it.

To enter the house, you take a path down from this hot, bristling climate through a canyonlike cleft between the two volumes. Here, a cast-concrete stair, bound by retaining walls, descends seven feet to a cool and shady courtyard, flanked by the 2,500-square-foot main house (containing a master bedroom suite; a living, dining, and cooking area; and two studies) and a 1,500-square-foot guest house (comprised of two bedrooms with a workshop and garage). Directly ahead, to the southwest, a spectacular view of the Tumacacori peak emerges.

"I always try to create an architecture rooted in its place—whether that's here in the deep landscapes of Arizona, or in Maine, or anywhere else," says the architect of the house, Tucson-based Rick Joy, a former carpenter and drummer, who was raised in Maine. "For me, an essential consideration is a building's impact on the land, on its surroundings."

Without tall trees anywhere nearby, Joy decided, the house needed a low profile in harmony with the desert brush and the site's gently sloping terrain. Working closely with landscape architect Michael Boucher, he carved a level shelf into the hill, defined by two rectilinear U-shaped retaining walls, skewed toward one another. Literally wedged between the two "U"s, the concrete entry stair converges toward the courtyard and its vista. Similarly sited, the house and its guest house, relatively simple linear sheds, also converge toward the most compelling panoramas.

The clients, Warren and Rose Tyler, had actually selected this four-acre site in Tubac, Ariz.—15 miles north of the Mexican border—for its nighttime, as well as its daytime, views. The region, blessed with exceptional weather conditions, is famous for clear, starry night skies (which is why the Smithsonian and other major observatories are nearby), as well as dramatic lightning storms. The dry climate and lack of clouds reduce visual distortion (or the perceived twinkling) of stars, and the desert spawns lightning by driving moisture into the sky and building up charge.

A former radio astronomer who later became a corporate CEO in Ohio, Warren Tyler had once concentrated professionally on such distant and elusive entities as black holes, rather than planets and constellations. But he was now interested in taking on optical telescopes, instead of radio waves, and stargazing for pleasure. Having often vacationed in the Southwest, the Tylers fell in love with the landscape and decided to retire there. An aficionado of architecture, Warren Tyler owns an exceptional design library, but even after purchasing the land, the couple did not have an architect. After considering other candidates, they met Rick Joy quite fortuitously—in a match made casually by a surveyor.



Joy, who formed his own practice eight years ago after two and a half years with architect Will Bruder, had established himself with elegantly simple buildings of striated rammed earth. "But I didn't want to be known as 'the Rammed-Earth Guy,'" he recalls. "All kinds of materials and conditions interest me. I was definitely ready to explore something new."

As it turned out, the Tylers were impressed with Joy's work—

Project: *Tyler Residence*
Architect: *Rick Joy Architect—Rick Joy, principal; Andy Tinucci, project manager; Franz Buhler, Chelsea Grassinger*
Engineer: *Southwest (structural); Otterbein (mechanical, plumbing)*
Landscape architect: *M. Boucher*
General contractor: *Rick Joy Architect*

The shed form of the main house, shading an outdoor kitchen, opens out southwestward toward the pool and mountains beyond (above, this page and opposite, top and bottom). A gravelly garden, spiked with cacti, fronts the house (below left) on the entry side, where low, interlocking volumes glow at night like abstract sculptures (below right). The telescope observation deck sits above the guest house (opposite, bottom).







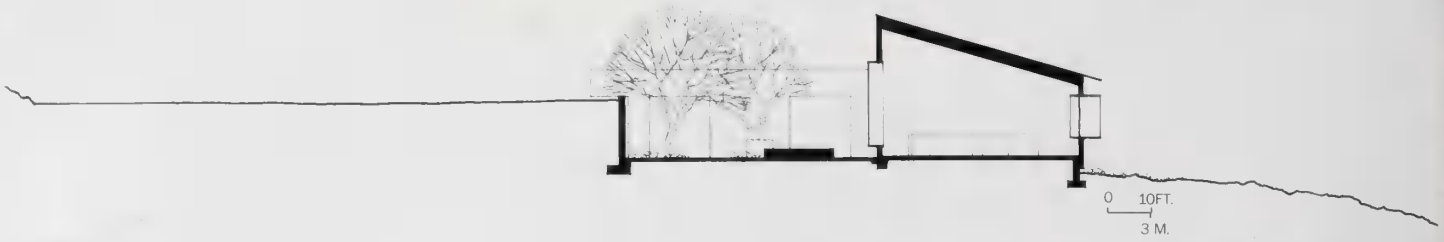


but rammed earth didn't really suit their needs. Their extensive art collection called for a more refined interior material. As they got to know Joy's projects, however, a small weathered-steel laundry building, which the architect had built behind his office, inspired them.

"Rusted elements appear all over the Arizona countryside—in sheds, fences, rails, wagon wheels, farm tools—and they just fit in," says Joy. The deep color resonates with the red Sonoran Desert sand. "In this dry climate," he adds, "the expense of Cor-Ten isn't necessary. Here, ordinary steel weathers and then stops shedding within a year. It won't rust through." Metal cladding, as Warren Tyler points out, is also effective in storms, acting like a lightning rod to dissipate electrical charge, rather than attract it. After settling on a weathered-steel exterior, Joy began to think of the house "as a geode: rough on the outside and highly refined on the inside."

The Tylers presented a few more guidelines. They'd need: two studies—Rose's for quilting and Warren's for his voracious reading projects; an optical telescope platform (which would ultimately go above the guest rooms); areas for entertainment and overnight guests; and easy, stair-free access, if necessary, to all indoor and outdoor spaces. Joy addressed the access question by sloping the driveway down to the garage, providing an alternate route that bypasses the entry steps.

"We also told Rick," says Warren Tyler, "we wanted a place we could live in inside as much as outside.—and when you're inside, we wanted it to feel like you were outside." An outdoor room, the long, rectangular

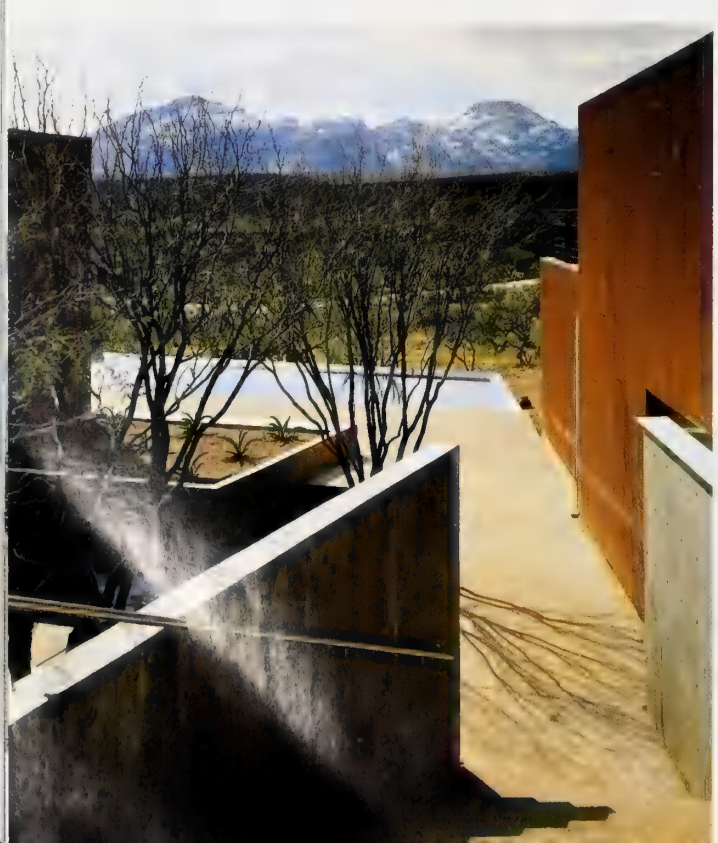


1. *Driveway*
2. *Courtyard*
3. *Living*
4. *Dining*
5. *Kitchen*
6. *Master bedroom*
7. *Study*
8. *Guest room*
9. *Garage*
10. *Workshop*



FLOORPLAN

Having hiked the Arizona canyons extensively, Joy envisioned the converging stair (below) as a canyonlike descent from the brutally desert into the cool, shady, fountain-fed oasis of the courtyard.



courtyard, is a sensual but distinctly man-made oasis, paved in concrete with a Mondrianesque pattern of cast-concrete planters, mesquite trees, a shallow pool, and fountains that look like cubic volumes of still water. An animated, rectilinear composition, flickering with shadows and reflections, the courtyard plays against the dry, rugged landscape. The water features and fragrant plantings were chosen to attract hummingbirds and butterflies.

The long courtyard leads directly onto the swimming pool deck to the west, where an outdoor kitchen is sheltered beneath the roof's deep overhang. A third, much smaller and more enclosed court is tucked behind paired his-and-hers studies, which interlock perpendicularly with the volume of the main house and border the long courtyard's east end.

The entrance to the main house is marked by a hollow rectangular steel box—a small open vestibule—projecting from the facade. From the exterior, this and other penetrations in the building's steel skin suggest multiple variations on a theme. All the windows are rectangular but, in some places, the glazing lies deep within a shading boxlike frame, while elsewhere the glass tautly seals the box's outer surface. Some windows are boxless, nearly flush with the facade, whereas others are unglazed cutouts, merely framing a vista, as in the outdoor kitchen.

From the interior, the logic of the windows—and their sometimes curious exterior placement—becomes evident. This is, after all, the house of an astronomer, and each aperture, like a scope, zeroes in on a particular view. With three mountain ranges visible from the house, long, clear



A Mondrianesque composition of cast-concrete planters, serene cubic fountains, and mesquite trees, the courtyard plays its sensual man-made landscape against the desert brush and rugged mountains.





Flanking the stainless-steel and maple kitchen, floor-to-ceiling glazing with minimal hardware opens toward the black granite-edged swimming pool and a multiplicity of framed vistas (this page and opposite).

passages and great unmullioned bands of window focus again and again on the peaks. In some places, quite astoundingly, oblique glimpses of two or three framed panoramas appear simultaneously.

Both buildings have simple, Modernist, finely detailed interiors. Polished black, radiant-heated concrete floors supplant the rougher exterior paving, and white walls replace the rusted steel. Smooth, pale maple, sand-blasted glass, stainless steel, and matte-gray steel (continuous with the exterior steel, but unoxidized) comprise the interior material palette. In the main house, living, dining, and cooking areas flow together in one open space. Joy's own construction crew created sleek cabinetry throughout.

The windows, at times placed unusually low, also play key roles in ss ventilation, producing Venturi effects. In the studies, Warren Tyler's for an outdoor-feeling interior is achieved with sliding-glass panels that essentially transform the spaces into screened-in porches.

Having broken free of the rammed-earth mold, Joy has been nting with other materials and ideas. These days, in collaboration architects, he's designing a southern Utah spa-hotel of stainless s ndstone, and is guest-teaching at Harvard. "Working in the Sou as been an amazing experience," he says, glancing toward the horizo t I know it's not the only place." ■



Sources

Lighting: *Lit. Touch Control System*
Plumbing: *AKWA, Kwin (faucets); Kohler (toilets); Grohe (showerheads)*

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Kitchen and dining areas are visible from the courtyard (this page). Inside, a low, mullionless window runs along the southeast wall (opposite, top). Unoxidized exterior siding continues inside the house (opposite, bottom).

Amid rice paddies, Shigeru **Ban** creates **NAKED HOUSE,** a luminous, translucent shed with moving rooms



By Naomi Pollock, AIA

Japanese houses are famous for their moving parts, for sliding shoji screens and folding futons. But mobile rooms? Naked House, Shigeru Ban's latest experiment in residential design, is a rhapsody on that very theme. Single-story and shedlike, the house has fixed elements—kitchen, laundry, storage, and bathroom—only along its perimeter, while its four bedrooms are literally freewheeling. Boxes on castors, these rooms can roll throughout the building, and even glide outdoors onto the terrace.

To Ban, the quintessential limit pusher, Naked House was an appropriate next step in his own series of Case Study Houses. His 1995 Furniture House, using factory-made furniture as columns and load-bearing walls, investigated structural concepts. Spatial explorations in his 1997 Nine-Square-Grid House and 1995 Curtain Wall House took inspiration from moving components in traditional Japanese architecture. Whereas Nine-Square pushes the potential of the mobile wall to an extreme, Curtain Wall actually encloses its street facades with architecturally scaled curtains (hence the project's witty name with double meanings). Not one to retrace his steps, Ban had been eager to try his hand at a house with rolling rooms. The key was finding the right client.

"I am kind of picky in selecting clients, especially for houses," says Ban. "I don't want to compromise [ideas], but the client shouldn't have to either." A salesman of golf club memberships, the client won Ban over with his description of an ideal home: a warehouselike building, free of airtight private rooms, where he, his wife, their two children, and his mother could gather to enjoy one another's company. Here, the architect saw his chance.

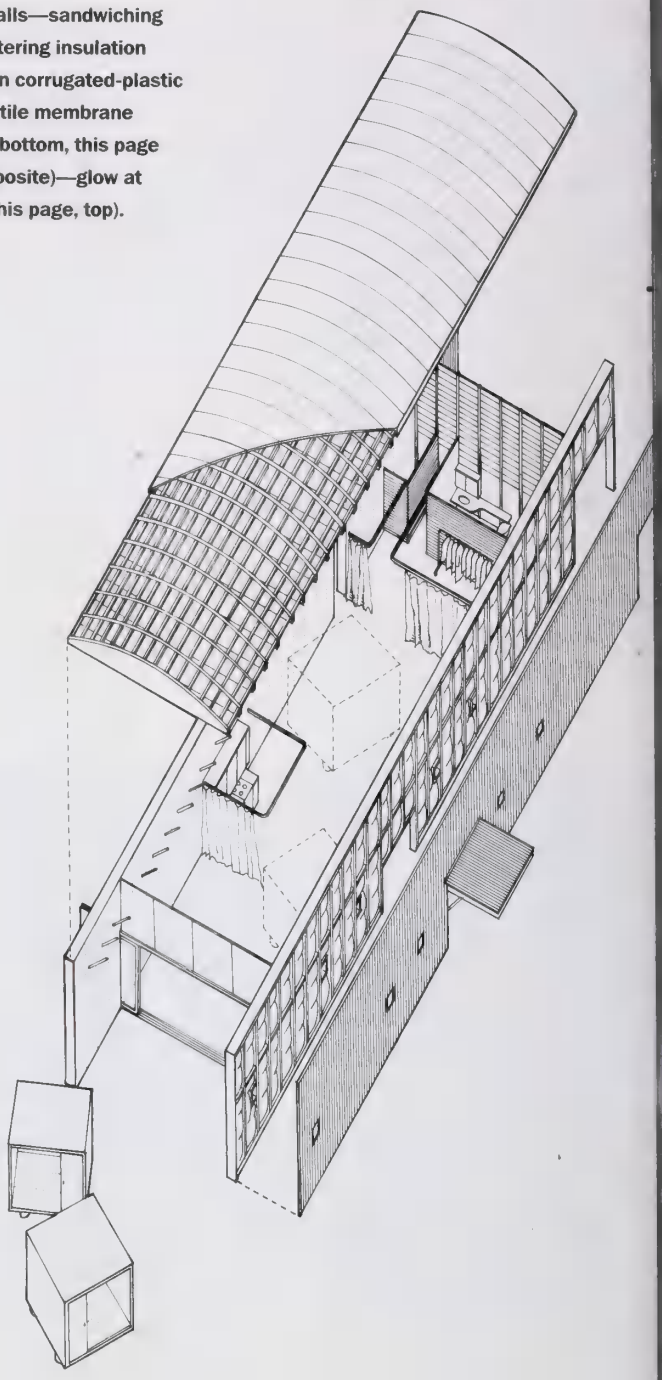
When Ban visited the site, it dawned on him that the appropriate precedent was not a warehouse, but a greenhouse. Set in an agricultural area about 15 miles north of Tokyo, the property is surrounded by rice paddies on three sides and faces the Shingashi River on the fourth. The neighbors are a Buddhist temple, scattered houses—and greenhouses.



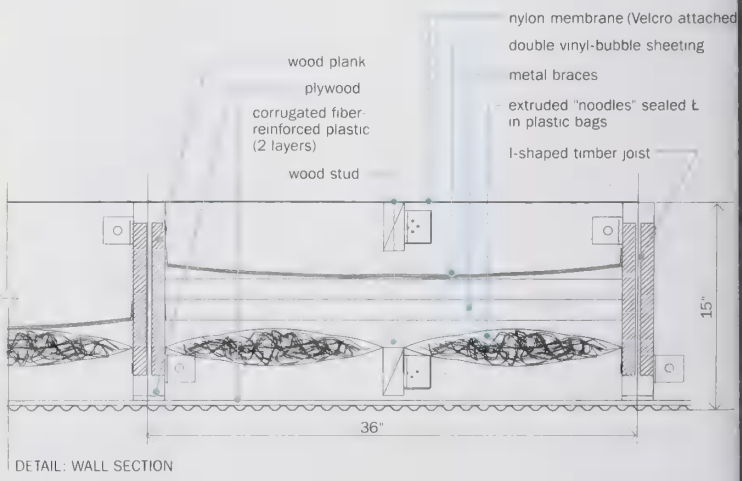
Rice-paddy troughs lead directly toward the facade's vertical divisions: structural wood columns behind a translucent corrugated-plastic skin.



Long walls—sandwiching light-filtering insulation between corrugated-plastic and textile membrane layers (bottom, this page and opposite)—glow at night (this page, top).







DETAIL: WALL SECTION



Louvered glazing and door-like windows flood the bathroom with light (top). Inside, nylon membranes line the walls (bottom).





To keep the boxes light, Ban created communal storage areas for clothes and other personal possessions (right and opposite, bottom). Much of the furniture is of his design. The children use the tops of their boxes for play and study (opposite, top). The kitchen (above) and laundry (right) are fixed elements; the boxes can move in infinite configurations (opposite).



When the local government set out to widen and pave the dirt road in front of the client's previous home, he decided to raze it and start over.

Inspired by glazed sheds, Ban wanted to encase the new house in a translucent—but well-insulated—skin. He first tried sandwiching shredded waste paper between corrugated fiber-reinforced plastic and a textile membrane, but the fill blocked too much light. Experimenting with alternatives, he discovered that extruded, white polyethylene "noodles," a packing material used in Japan for shipping fruit, let in light and kept out cold perfectly.

Yet even in Japan, where architects can convince contractors to do amazing things, the task of turning synthetic noodles into a wall seemed beyond the pale. And so, four members of Ban's staff set up shop in his studio, where they spent at least 500 hours spraying the fill with fireproofing, and stuffing it into four- and five-foot-long bags made of heat-sealed, transparent polyethylene sheeting. Each bag was divided into squares to prevent the fill from settling to the bottom. Afterward, the group carted the 500 sacks to the site, bit by bit, in the back of Ban's car.

Ban's staff intended to install the insulation themselves, but time constraints led them to turn the job over to the contractors, who stapled each bag to the the house's wooden frame supporting the curved roof's 34 arched trusses. Concealed by a plaster gypsum-board ceiling, the trusses are "stitched" to the walls with slender, diagonal steel braces. A nylon canopy textile veils the insulating innards on the interior. Attached by Velcro to the wooden frame, the nylon is removable for cleaning or, says Ban, for *hesokuri*—the Japanese equivalent of hiding money under the mattress.

Aside from a modest north entry and paired doors off a small terrace to the south, the 15-inch-thick walls are punctured only by hinged, square ventilation windows. The end walls, by contrast, open completely. Sliding glass doors seamlessly connect a covered terrace to the interior, which is undivided except where fixed, partial-height walls sequester bathroom functions, and billowy curtains lightly partition kitchen, laundry, and storage zones. Together, white walls, ceiling, and floor tiles create a loftlike space.

This neutral yet luminous room sets the stage for Ban's movable boxes, made of brown paper-honeycomb panels on wooden frames. Blurring the line between architecture and furniture, each unit is a traditional Japanese room on wheels, easy to maneuver and complete with tatami mats and sliding partitions. Untethered, the independent boxes lack climate control, but they can roll up to wall-mounted air conditioners, electrical outlets, or windows to moderate temperature and lighting.

The four boxes are the family members' private retreats. Intended mainly for sleeping, each measures 63 square feet for adult occupancy or 55 for a child: just big enough for a futon and lamp. The tops of the children's boxes double as play or study areas. To keep the mobile units as small and light as possible, Ban provided separate communal storage for clothing and other personal possessions. But the boxes can also link together: "With their sliding doors out, they can connect linearly and become the perfect place for a Japanese funeral," chuckles the architect.

In Naked House, he explored new ways of building and living. The project distinguishes clearly between private and more public realms—an often-elusive division in the Japanese house. Ban took the traditional idea of moving building parts—and, in every sense, set it free. ■





Project: *Naked House (Case Study House 10), Kawagoe, Saitama, Japan*
Architect: *Shigeru Ban Architects—Shigeru Ban, Anne Scheou, Mamiko Ishida, project architects*
Engineers: *Hoshino*
General contractor: *Misawaya Kesetsu*

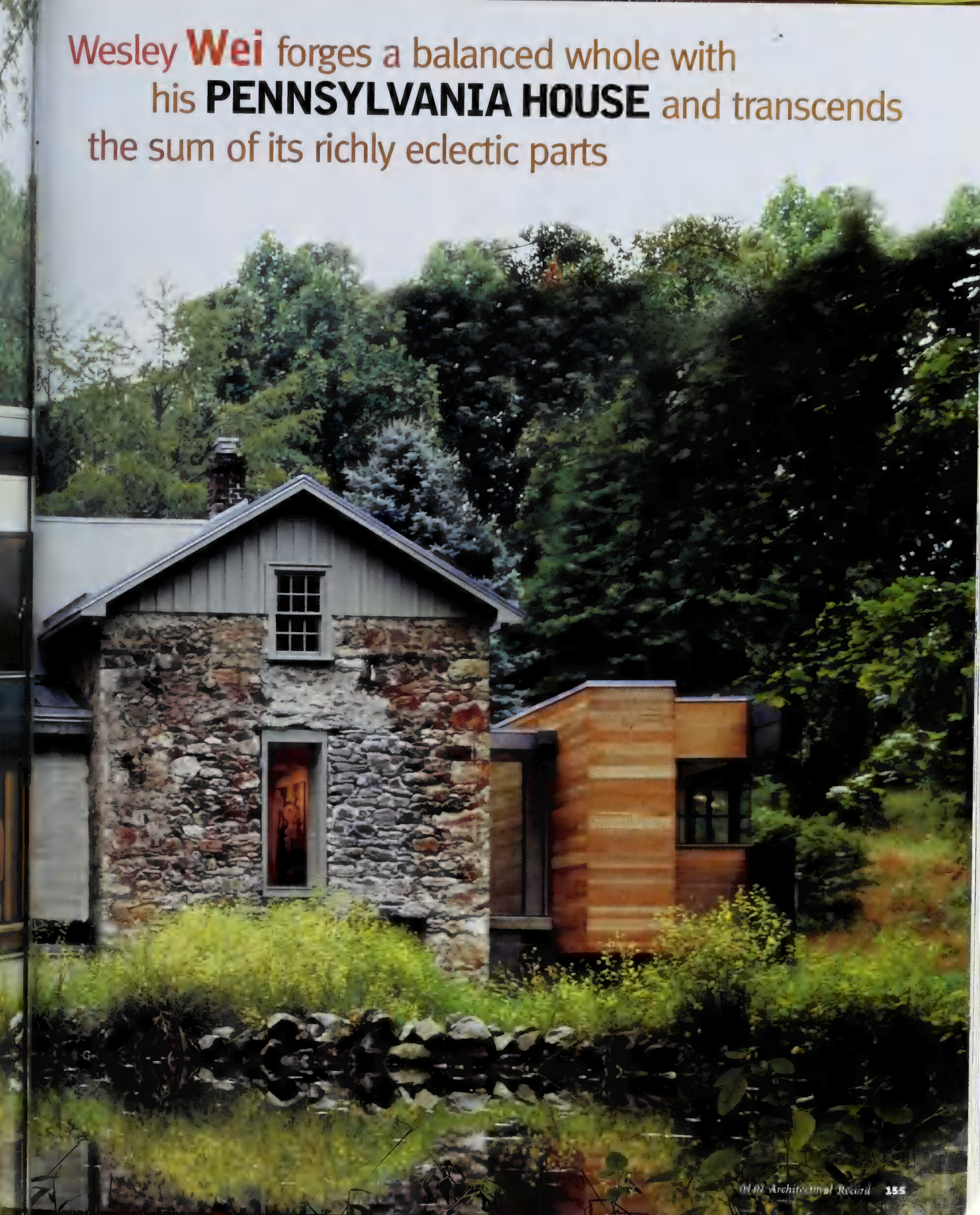
Sources
Lighting: *Daiko, Odelic, Yamagawa*

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The south elevation overlooks a pond stocked with koi. A lead-coated copper "mask" on the second floor of the main addition (left in photo) conceals part of the master bedroom, while a small kitchen pavilion juts out into the wooded landscape

Wesley Wei forges a balanced whole with his PENNSYLVANIA HOUSE and transcends the sum of its richly eclectic parts





The front of the house (right) reveals little of what happens inside, but introduces a palette of materials with the same visual weight as the original stone. The kitchen pavilion rests on a concrete plinth (below).



By Clifford A. Pearson

This house in the woods evokes images of masks with thei seductive power of not showing too much too soon. "I'v always been interested in screens and other devices that simul taneously conceal and reveal," says architect Wesley Wei, AIA who renovated and expanded a late-18th-century stone farmhouse into residence for an art collector. The client is a bachelor who guards hi privacy, so introducing elements that obscure views inside seemed appro priate. Here, the mixing of periods, forms, and materials is a kind o masquerade in which various faces are shown to outsiders and onl invited guests get to know the inhabitant's true identity.

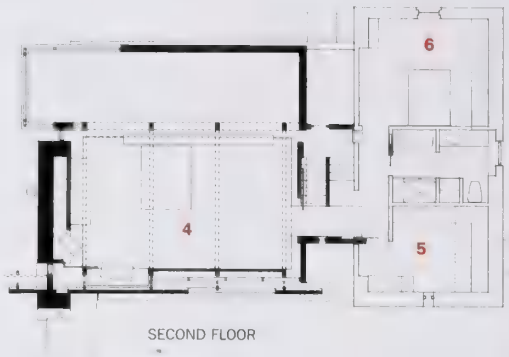
The original schist-and-fieldstone house, with just 700 squar feet on two floors, had been compromised by unsympathetic addition during the 20th century and could not accommodate the client's expand ing collection of modern art. On meeting the client, Wei was impressed perhaps even a bit intimidated, by the collection, which included work by George Baselitz, Francesco Clemente, Alberto Giacometti, Anseln Kiefer, and Louise Nevelson. Wei's first sketches showed new addition that played quiet, supporting roles to the art. The client responded by say ing he wanted a house that would stand up to the art, not just provide setting for it. So Wei broke free of his self-imposed restraints and devel oped a more assertive design that takes its cues from the art collection an the site while creating a three-dimensional composition with its own per sonality. From the outside, the juxtaposition of distinct forms seems a bi jarring. Once inside, though, it's clear that the volumes have been tailore

Project: *Pennsylvania House, Media, Pa.*
Architect: *Wesley Wei Architects—Wesley Wei, AIA, principal-in-charge; Stephen Mileto, project architect; Caitlin Moore, Alice Chun, Taylor Lawson, Joel Ziegler, project team*
Interior designer: *Maria Izak Nevelson Interior Design*
Fabricators: *AAA Welding (steel); A.C. Gentry (lead-coated copper); bulthaup studio (kitchen cabinets); James Van Etten (custom cabinets)*
General contractor: *Phillip Johnson Construction, Inc.*



Two steps below the level of the original house, the flooring space of the sun room addition seems as a surprise.





1. *Gallery*
2. *Living/dining*
3. *Kitchen*
4. *Master bedroom*
5. *Cedar closet*
6. *Bedroom*

The 18-foot-high gallery on the front of the house was designed to accommodate a large painting by Anselm Kiefer (below).





Daylight from above gives the living room an ethereal quality. A patio (left in photo) will be extended with an aluminum deck to reach out to the pond.

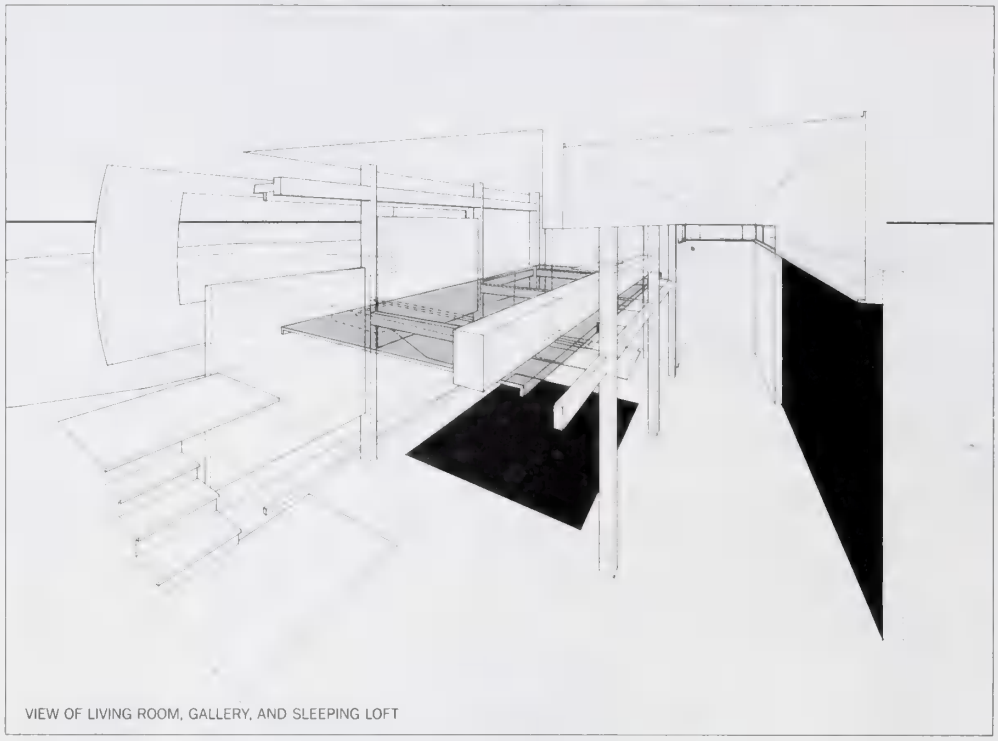
o the demands of particular paintings and to the client's lifestyle; a gallery space near the front of the house, for example, rises to an 18-foot-high ceiling to accommodate a large Kiefer canvas, and a narrow kitchen pavilion shooting off the south side of the original house is proportioned for a man who rarely cooks or entertains.

Located in Media, a town about 20 miles southwest of Philadelphia, the property has an almost-rural feeling, even though other houses are not far away. A small pond with a backdrop of trees helps establish the bucolic setting, and an existing freestanding garage accommodates the client's small fleet of sports cars.

Wei razed earlier additions to the house and designed new ones on either side of the original stone building to create a trio of volumes aligned in a row. Using materials and forms that are clearly modern, the architect treated the 18th-century house as one piece in a collection of architecture. While some parts are masked or obscured, each has "a legibility, a clarity of reading," explains the architect. Thanks to the visual weight of its stone, the old structure is still the center of gravity of the overall composition. But the 2,500-square-foot expansion is more than three times as large as the original house, and visitors enter not through the old building, but through a pivoting steel door on the larger of the two additions. Inside the house, each part maintains its own identity: small kitchen pavilion, stone farmhouse (used as art space on the ground floor with small bedroom and cedar closet above), an expansive north addition comprising an art gallery and living room on the first level, and grand sleeping loft upstairs.

THE CLIENT WANTED A HOUSE THAT WOULD STAND UP TO THE ART, NOT JUST PROVIDE A SETTING FOR IT.

Respecting the identity of the old farmhouse, Wei used a contrasting palette of materials for the additions: Cor-Ten steel, lead-coated copper, poured concrete, and Western-cedar planks. On the front elevation, he combined these materials with just a small band of clerestory windows to create a virtually opaque facade. This solidity is contrasted with a generously glazed rear elevation that looks onto the



VIEW OF LIVING ROOM, GALLERY, AND SLEEPING LOFT

Wei designed the stair and sleeping loft as elements floating within the new house (left). Old and new materials embrace at thresholds between the farmhouse and the additions (below). A Nevelson sculpture stands in the main bedroom (below left).





pond. In fact, balancing heavy with light and old with new continues throughout the house. A circulation axis near the back of the house connects all the pieces, cutting through the thick stone walls of the farmhouse and providing remarkable transitions between old and new. A secondary path near the front of the house provides a similar sequence of thresholds.

In the main new wing, an almost Zenlike use of materials—waxed plate steel, cleft slate, subtly tinted plaster, and a channel of dark-gray river stones—offers an intriguing counterpoint to the pine floors (salvaged from old barns) and rough-stone walls of the renovated old house. A steel-frame structure that seems to hover within the enclosing volume of the addition supports the master bedroom upstairs. Wei exposed the aluminum-grate floor structure around the edges of the floating bedroom, allowing light from below to shine through. Because it faces west to the pond, the bedroom is equipped with two layers of mechanized fabric shades—one to block out the sun and the other to reduce solar warming while maintaining the view. The convex surface of the room's lead-coated copper "mask" provides a third layer of protection. "We wanted this element to be voluptuous, to be a soft form," explains Wei, "connecting the bed with the view of the water."

Just as a good art collection unfolds as a sequence of creative moments, Wei's design for this house in Pennsylvania offers a progression of experiences—initially denying visual access, then opening up views, cutting paths through thick old walls, and peeling away layers that protect, obscure, and tease. ■

Sources

Stucco: *Penn Crete Stucco*
Roofing: *EPDM; Firestone*
Wood doors: *Morgan Morgan*
Paint: *Benjamin Moore*
Slate flooring: *Vermont Structural Slate*
Lighting: *Flos, Artemide, Halo*
Faucets: *Kohler*
Cooktop, oven, and dishwasher: *Miele*
Refrigerator: *Subzero*
Windows: *Weathershield, Crittel*

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CIRCLE 61 ON INQUIRY CARD

Weird Science in a New Age of Industry

A PROVOCATIVE EXHIBITION AT THE HARVARD GRADUATE SCHOOL OF DESIGN SHOWS THAT TECHNOLOGY WILL SOON GIVE ARCHITECTS UNPRECEDENTED CONTROL OVER MATERIALS AND PRODUCTION.

By Sara Hart



A thin plywood canopy hangs from the ceiling on threaded rods, which are attached to the overlapping panels by bent aluminum spider connections.

The house is the architect's laboratory. Architectural innovation and material experiments take place in residential design more than any other building type, even though across all architecture firms, less than 10 percent of billing is applied to residential commissions. Many smaller firms specialize in this sector, and residential design remains a vital part of the profession. Still, most homes are not designed at all. They're fabricated or assembled from standard parts by builders at a rate of about 1.65 million [2000 figures] starts a year in the United States. Experimentation with materials and methods has been the provenance of architects and their erudite clients, as evidenced in this month's RECORD houses, which range in daring from Rick Joy and ARO's steel houses to Shigeru Ban's polycarbonate exterior walls.

Today, research and development in residential technology is largely limited to energy efficiency and cost management, which are sponsored by government agencies, or to improved construction practices, mandated by insurance companies. Accomplishments, for the most part, are measured in incremental improvements in existing methods and materials, not the kind of innovation that requires observation then imagination. Architecture schools, for their part, have preferred giving form to theory rather than probing the possibilities and limitations of either new or existing methods and materials.

There is promise at the university level, however, where anecdotal evidence suggests that students are rediscovering the relationship between design and material. On March 5, an exhibition exploring the nature of building materials and fabrication processes opened in the lobby gallery of Harvard University's Graduate School of Design (GSD). Called *Immaterial/Ultramaterial*, it's the culmination of a year-long advanced independent seminar, conceived by the GSD's Department of Architecture chairman Jorge Silvetti and conducted by four professors—Toshiko Mori, Nader Tehrani, Marco Steinberg, and Ron Witte—who guided four groups of students in related investigations. Acknowledging that architects are not materials scientists but designers, Toshiko Mori, also the exhibition curator, sees material as that which is designed in the same way as form and space: "Material is a universal language. It's visceral and tactile, and anyone can understand it. If you start with theory, you won't engage people, but if you start with Homasote, for example, you can raise the level of understanding about the possibilities."

Because they chose ordinary and available materials, such as Homasote, thin plywood, rubber, foam, felt, and mesh, the students were able to manipulate the materials themselves in the school's workshop or at local fabrication shops. It's refreshing to see that in the age of computer simulation and virtual reality, these students have chosen to embrace the ordinary and available as the first step toward innovation.

All four groups launched their investigations with the same

CONTINUING EDUCATION

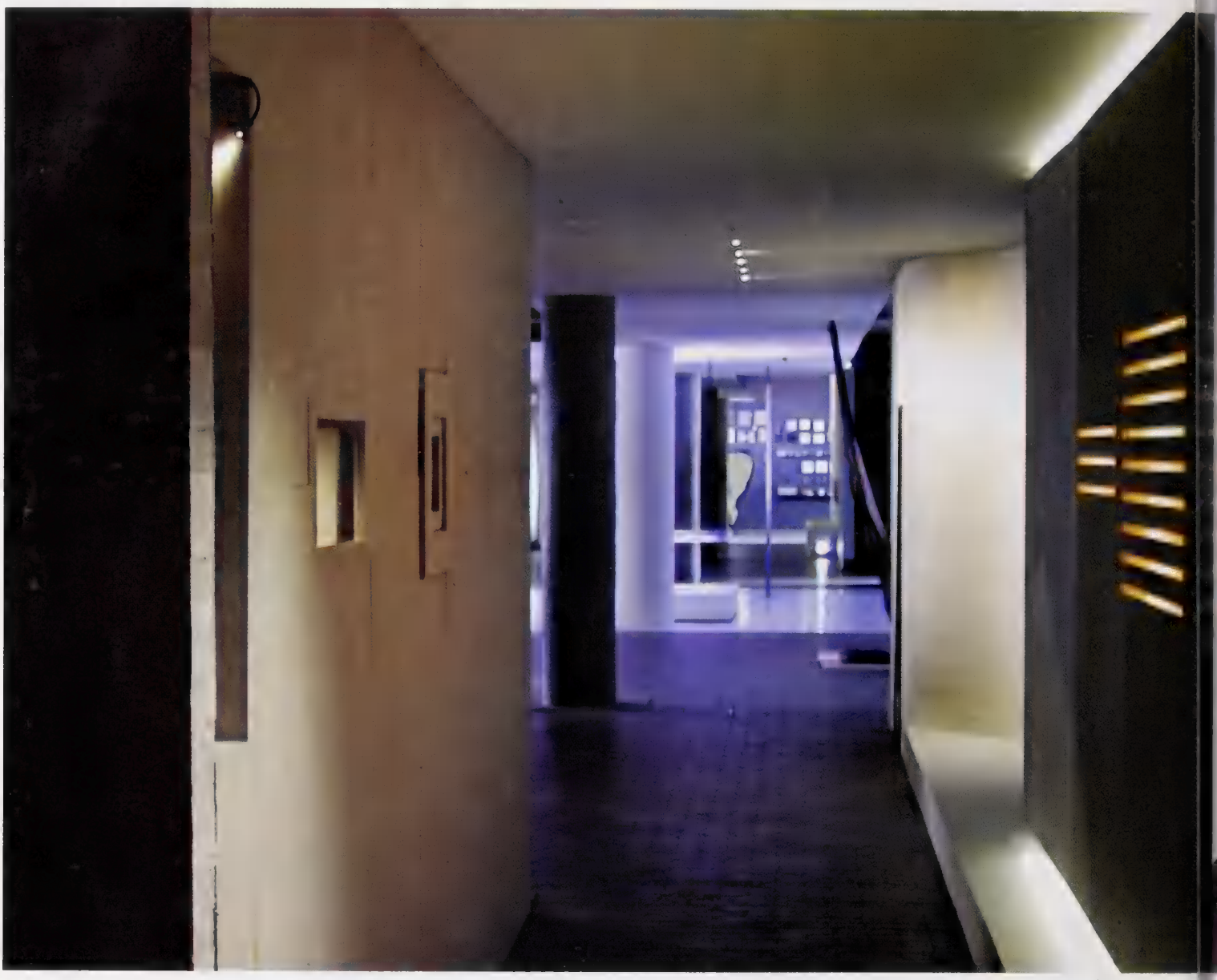
Use the following learning objectives to focus your study while reading this month's ARCHITECTURAL RECORD/ AIA Continuing Education article. To receive credit, turn to page 210 and follow the instructions.

LEARNING OBJECTIVES

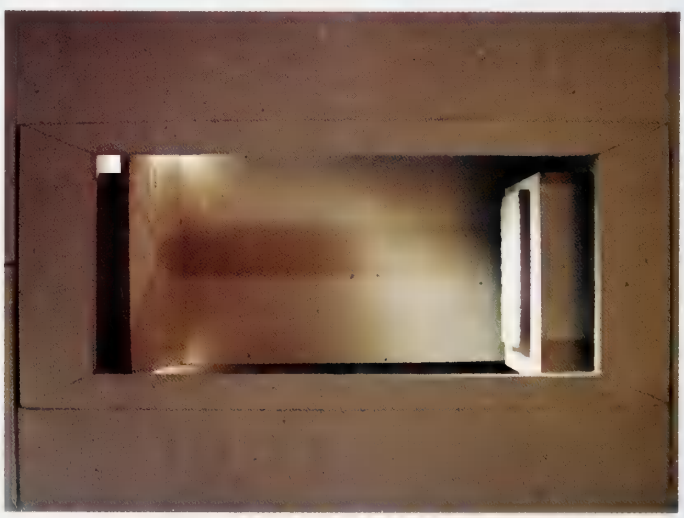
After reading this article, you should be able to:

1. *Describe how ordinary materials can be used in new ways.*
2. *Discuss the concept of innovation versus incremental changes in the building industry.*
3. *Describe areas of current exploration in residential construction materials.*

WWW For this story and more continuing education, as well as links to sources, white papers, and products, go to **www.architecturalrecord.com**

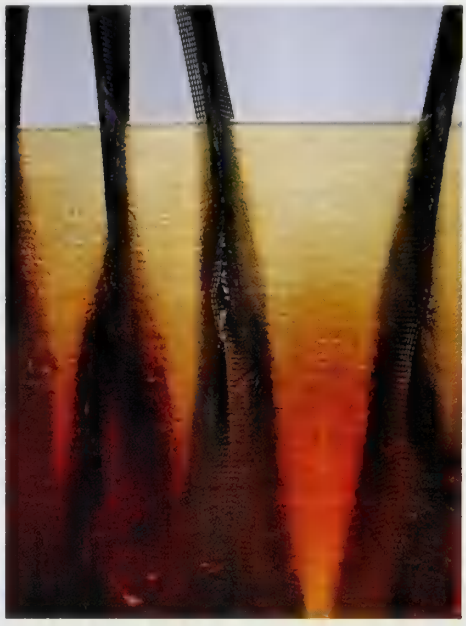


Designers turned common Homasote, a recycled newsprint construction board, into a textured wall (above) with a variety of subtle, elegant finishes. Niches (right, far right) give depth to the walls and provide lighting alcoves. Recorded and arranged by music students, sounds of rustling paper, voices, air, and rushing acid another dimension.











Panels (left) of a strong soft-urethane mold rubber were cast in CNC-milled foam molds and reinforced with PVC-coated fiberglass mesh. The mesh extends beyond the rubber and hangs from ceiling hooks (top). A detail of the thin-ply canopy (above) shows the machine screws, which attach to the spider connections on the other side.

objective—to enhance the performance and draw out the latent potential of the materials with which they chose to work. The four studios framed their research around themes—Surface, Edge, Phenomena, and Substance.

The latent beauty of Homasote

In Marco Steinberg's "Surface" studio, Bill Yen investigated both performance and latency in Homasote. From an aesthetic perspective, such an unpretentious, dependable workhorse of a material would appear too base for the intellectual explorations of graduate students. After all, it's just recycled newsprint and water.

In production since 1909, it has changed very little over nearly a century. Even the manufacturing process is crude by today's standards. Newspaper and water is whipped in a vat into gray slurry and cellulose fiber pulp. Nonpaper debris is removed with a ragger, and then environmentally harmless additives are introduced. The refined slurry—98 percent water and 2 percent pulp—is moved to holding tanks and then to molds, where the mix is dried and press into sheets. The resulting product is homely and crude, yet it performs at a level that belies its modest roots. Because it is water-resistant, structural, and durable, it has been used in utilitarian buildings from the Arctic Circle to the South Pole but now is mostly used for roof sheathing and underlayment, roof decks, and sound and thermal insulation.

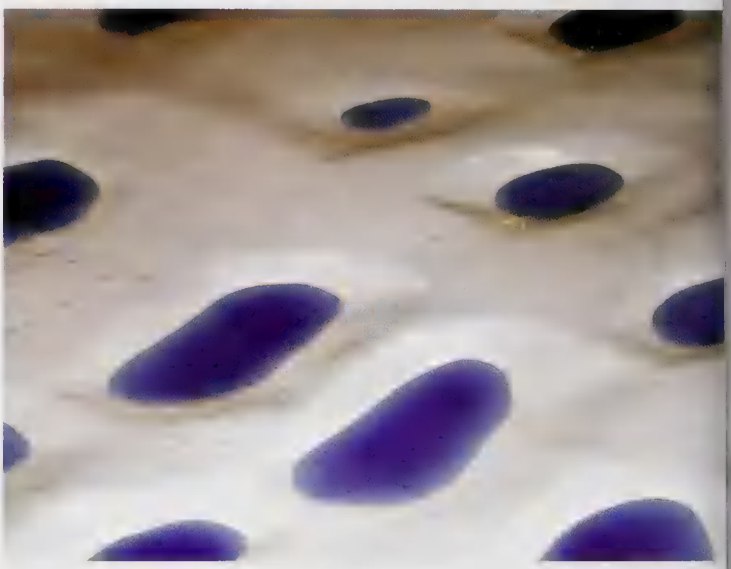
Steinberg's group attacked the material's inherent stiffness and made it malleable by carving, sanding, laminating, painting, and staining. Then they combined it with other radically different materials, such as cast rubber, to create curves and transparencies. "The goal with Homasote was to use design as innovation rather than technology," explains Steinberg. In the exhibition, full-scale walls with various finishes are embedded with light strips, which glow beautifully and give the walls a new tactile quality not previously associated with this homogeneous material.

The economy of digital production

In the "Edge" group, led by Nader Tehrani, students borrowed techniques from the apparel industry to study "the interface between aggregation and geometry." Tehrani believes that "mass production through repeti-







Cast-resin panels of aerogel tiles (left) demonstrate the latent architectural potential of a highly effective insulating material. Details (above, top) show how the material becomes opaque or translucent when chemicals are added.

tion is an obsolete concept. New fabrication technologies allow architects to be the authors of the means and the methods, not contractors." Using the GSD's CAD/CAM and CNC facilities, students gained control of production with laser cutters, milling machines, and 3-D rapid prototyping.

Kristen Giannattsio and Heather Walls chose wood manufacturing, molding, bending, and joining, to which they applied the techniques of tailoring, such as overlapping darts and tabs. They designed an undulating canopy made of 192 Sapele mahogany veneer panels secured with machine screws. They designed the overall monolithic form using Rhino, a design-and-manufacturing software, while simultaneously investigating ways to join the individual panels. The final units were drafted in two dimensions in AutoCAD, and the files were fed directly to a laser cutter.

The laser can cut 192 unique patterns in the same amount of time it takes to cut the same number of identical shapes. This project illustrates the potential of custom mass-production, which may eventually allow architects to bypass shop drawings and take on some of the fabrication themselves. This development has far-reaching implications for residential design in the near future. Walls and Giannattsio imagine that this process could be associated with hung-ceiling and wall paneling systems. Within the economy of digital production, custom fabrication is made cost-efficient and, therefore, particularly useful where acoustical, lighting, and mechanical conditions are atypical, such as in renovations or conversions.

Also under the direction of Tehrani, John May and Richard Lee investigated the relationship between structure and surface. They created CNC-milled foam molds into which liquid polyurethane rubber was poured and reinforced with PVC-coated fiberglass mesh. By pleating, folding, and cutting the mesh and by varying the thickness of the rubber, the designers created strange but beautiful patterns and invented a paneling system in which the reinforcement is visible through a translucent structure or, as Tehrani described the finished product, "an inversion of the alliance between concrete and rebar." Depending on further refinements, these panels could be either decorative partitions or all-weather

s Peter Dolle Associates, architect; Sam Gray Photography

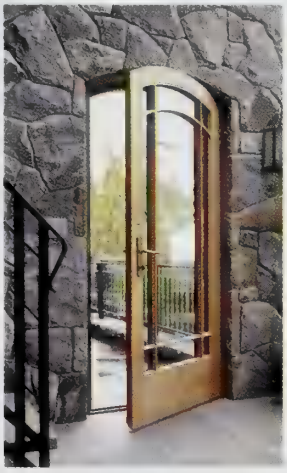












Roderick Graham/Richard Jaffe, architects.
Holly Stickley Photography

Bershad Design Associates Inc., architect, Will Sherwood Photography

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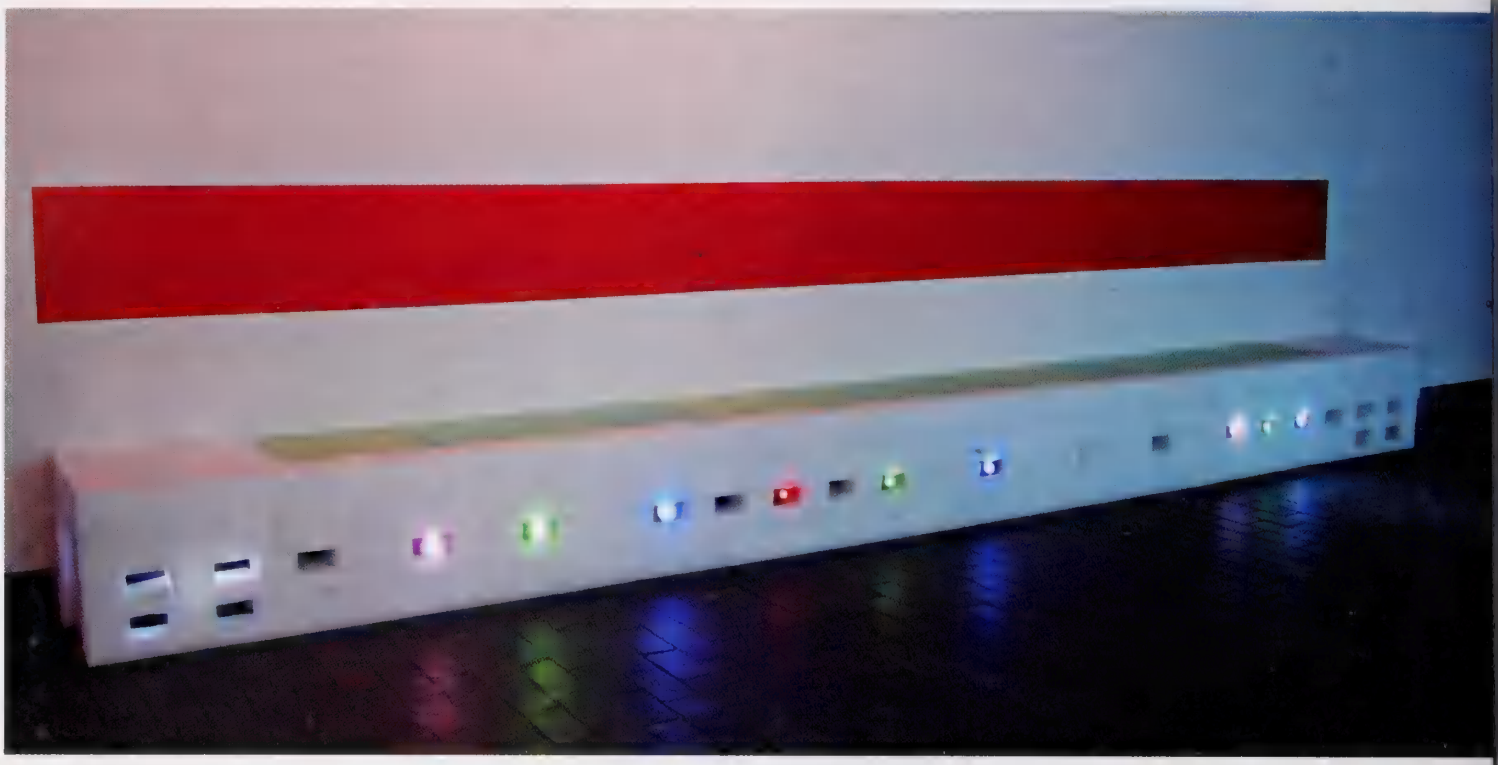


n Design, architect, Photography by Christopher Lovi

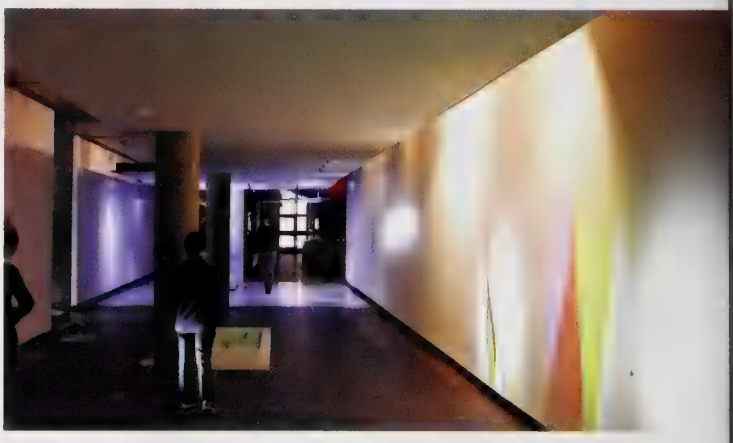
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A bench (above) made entirely of polyethylene foam and padded with pressure-sensitive Pudgee foam contains "Spectral" fiber-optic lights, which cast colorful shadows (left) when their white beams are scattered by passing visitors. Throughout the installation, light and sound animate the spaces.

surfaces in high-traffic areas; they could also be cast as structural blocks. The rubber is exceptionally strong and abrasion resistant, and the mesh is industrial grade reinforced insect screen.

Sense and sensibility

Whereas, the previous investigations have believable market appeal, two other groups are more speculative. "Substance" and "Phenomena" address issues of technology transfer, where one industry borrows the materials or techniques of another. In her studio, Mori's students focused on how the characteristics of materials are perceived through the human senses in response to the theory that virtual reality and simulation actually reduce the information we absorb by eliminating that which comes from material tactility, smell, and sound.

Tala Klinck researched the wide array of foams used in disparate industries as part of her investigation into tactility. She chose pressure- and heat-sensitive Pudgee (viscoelastic foam), an amazing material used by the medical profession in beds and wheelchairs. It protects sensitive skin, absorbs moisture and vibrations, improves blood circulation, and relieves skin tension. It is a memory foam, which means it conforms to the body's contours, then returns to its original form when the load is removed. Klinck combined the Pudgee with a closed-cell polyethylene foam used to package fragile equipment and able to absorb impacts up to 2.5 psi. With these materials and band and table saws and a knife, she made the only furniture—a bench—in the exhibition. Because sight and sound are senses, she embedded the bench with nine strands of fiber optics, extending from metal-halide illuminators evenly placed along the front edge. When visitors pass in front of the illuminators, they interrupt the light beam, and it breaks into a spectrum of bright colors.

Despite the ethereal qualities of sound and light, Klinck's bench with foam has immediate marketability, especially as furniture. As she learned, "it has a lot of unrealized potential as a material for both buildings and smaller-scale design. It can be squishy or structural,

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opaque or translucent. Foams are also great insulators, many resist water, and most are recyclable."

Sounds, composed and produced by the department of music, are used throughout the exhibition, while scent permeates Mette Aamodt's niche, a place to sit surrounded by felt-covered walls infused with fragrant felt walls.

Looks like frozen smoke, insulates better than anything

If any of this points to a revolution in the making, it may come from the "Substance" group's experiments with aerogel, a silica-based substance that is 98 percent nothing—a glass matrix of hollow cavities, weighing just three times more than air. Invented in the 1930s, it had little commercial application until the 1960s and '70s, when its extraordinary insulating properties were discovered. NASA used it to protect the Mars Rover's sensitive instruments from temperatures far below zero. In the foreseeable future, its remarkable insulating properties could and probably will radically change architectural form. A single inch insulates as effectively as 32 layers of glass. Aerogels also insulate against noise, because sound velocity in aerogel is less than a third what it is through air.

Ron Witte's team—Billie Faircloth, Judith Hodge, Suzanne Kim, and Clover Lee—created a matrix of tiles cast in clear resin, which illustrate aerogel's gradient possibilities, ranging from opaque to nearly transparent, depending on what chemicals are added. Their work is on the heels of research already under way to make the substance a viable building material. Some advances have made it more translucent, and others have made it more plastic. Witte envisions a day when this almost perfect insulation/cladding material will eliminate any thermal reasons to distinguish between window and wall.

Though not motivated by commercial applications, these student experiments, which uncovered the lurking beauty of Homasote, the performance of foam, and the elusive potential of aerogel, for example, might best be applied to the innovation-starved residential market. The investigations at the GSD clearly demonstrate the need, especially in residential design, to pursue unfeigned innovation instead of settling for the incremental improvement of existing methods and materials. Even the most bonafide and well-crafted prototypes in this exhibition are years away from the marketplace, but the point is that architects are on the threshold of a new era in which they will have unprecedented control over materials and fabrication. ■



The exhibition ends with a sample wall, where the evolution of the projects, through trial and error, are displayed.

AIA/ARCHITECTURAL RECORD CONTINUING EDUCATION

INSTRUCTIONS

- Read the article "Weird Science in a New Age of Industry" using the learning objectives provided.
- Complete the questions below, then check your answers [page 210].
- Fill out and submit the AIA/CES education reporting form [page 210] or file the form on ARCHITECTURAL RECORD's Web site at www.architecturalrecord.com to receive one AIA learning unit.

QUESTIONS

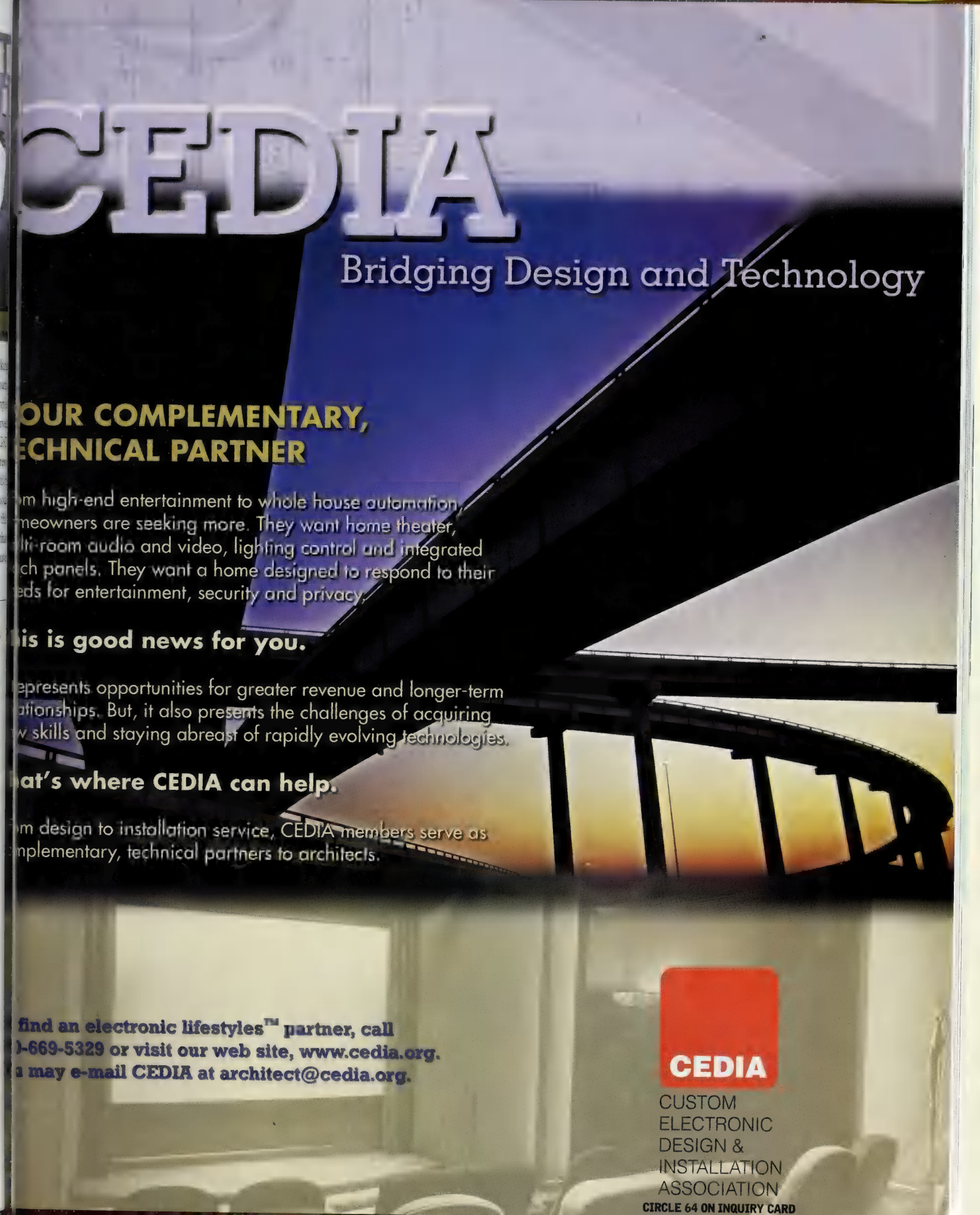
1. What is the significance of the *Immaterial/Ultramaterial* exhibit?

2. What was the outcome of the study called "Surface"?

3. What methods did the new fabrication technologies studies explore?

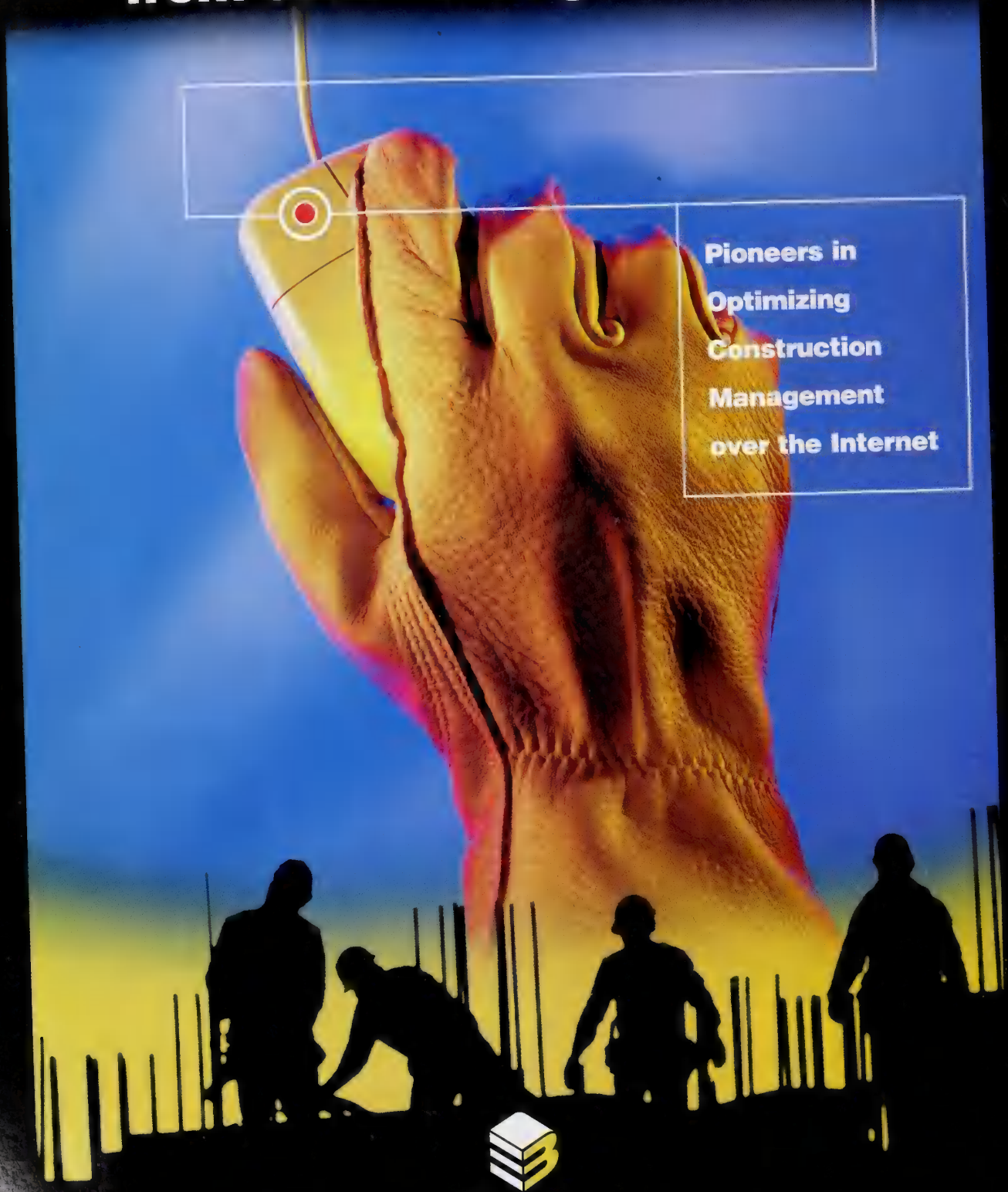
4. How did the study groups approach technology transfer?

5. What makes the aerogel study more innovative than the current research in residential technology?



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Tech Briefs

Frank Lloyd Wright's Unity Temple receives a face-lift • Two Florida experimental homes are adapted to give people with disabilities their first opportunity to live independent lives

An innovative approach leads to a solution for the Unity Temple's crumbling exterior







Frank Lloyd Wright's 1908–09 Unity Temple, near Chicago, is a masterpiece rendered inside and out in reinforced concrete.

It takes almost as much innovation to repair and restore a Frank Lloyd Wright building as it took to build one. Work is beginning on the first phase—repair of the concrete—in a multiphase restoration at Unity Temple, Wright's 1908–09 reinforced-concrete building in Oak Park, Ill. The church is one of Wright's earliest experiments with reinforced-concrete construction and represents creative use of the material as both a structural and an architectural element.

Falling concrete

Four different kinds of concrete were used in the original construction: conventional concrete in structural columns and foundations, cinder concrete for the floor and cantilevered roof slabs, lightweight cinder concrete for roof topping, and a Portland cement-facing mortar, resembling aggregate, on the exterior walls. Over the years the cinder concrete had disintegrated and the porosity of the Portland cement facing allowed water to run into the building. The roofs deflected as much as five inches; the rebars, originally placed within half an inch of the surface, were left exposed as a result of the erosion of the cinder concrete. The cinder aggregates contain iron particles that corrode and expand, causing chunks of concrete three inches to a foot in diameter to pop off the building.

Interior problems

Humidity and carbon dioxide caused interior problems as well. Wright designed one of the first forced-air mechanical systems, but it never functioned. Originally, the heating ducts were hidden in uninsulated terra cotta under the floor slab and in the massive hollow columns that support the sanctuary roof. It took about a year to solve the heating problem by adding radiators before the building could be opened. "There is a lot of common wisdom about what caused the malfunction, but I haven't been able to prove anything yet," said Christine Happ Olson, executive director of the Unity Temple Restoration Foundation (UTRF), which is overseeing the project.

The lack of ventilation and high levels of humidity and carbon dioxide in the sanctuary have created cracking and spalling on the interior concrete surfaces as well as on the exterior. An investigation will determine the best way to replace the nonfunctional forced-air system, if possible by resurrecting Wright's original distribution system.

Finding the right fix

Problems escalated during two warm winters, when alternating expansion and contraction caused concrete to fall. UTRF called in Construction Technologies Laboratories Engineered Construction (CTL) from nearby Skokie to determine the cause of the concrete deterioration and to recommend solutions. CTL studied the problem under the direction of structural engineer Thomas L. Rewerts, who now manages the project as a consultant to CTL.

The solution requires the removal of the deteriorated concrete, replacement of the rebar, new shotcrete to match the old aggregate finish, a new reinforced concrete fascia, and sealing of small cracks. Performing the repairs has been complicated by the site conditions. A 2- to 3-inch layer must be removed from the underside of the 9-inch roof slab, which is 40 feet above grade. Tall art-glass windows located just below the roof must remain in place during the demolition and construction. Traditional methods of removing concrete, such as jackhammering, are imprecise and would crack or loosen the windows.

In response to the conditions, Rewerts developed a non-percussive method of removing concrete by using a material called Bristar. This chemical compound, when

mixed with water and left for four to five days, will expand to 200 percent of its original volume. "It is commonly used to demolish huge dams and other large structures; this is an unusual application of the material," said Rewerts. "But we believe it will become more and more common."

Sawcuts will be made in the surface approximately six inches apart between the rebars. The cuts will be the width and depth of the sawblade and approximately six feet long from the face of the roof to the face of the building.

Transverse cuts will break down the six-foot distance into 18-inch segments. Every other sawcut will be filled with Bristar, while the other cuts will provide expansion room and break lines. As the expansion causes the concrete to crack, the pieces will be a manageable size of approximately 6 inches wide, 2 inches deep, and 18 inches long. The Bristar company made it clear to CTL that the nature of the cuts is not according to their guaranteed specifications, which call for specifically spaced holes and a thicker material. Therefore, Bristar said it could not endorse this use. But Rewert and CTL tested their method before putting it out to bid and are confident that it will work. The Unity Temple Restoration Foundation (UTRF) has raised $1 million for the exterior restoration project, which is expected to be completed by year-end.

All of Phase I is focused on exterior repairs and restoration. Phase II will first concentrate on salvaging Wright's heating and ventilation systems. Once those systems are working, repairs of the interiors will begin. Ongoing replication of the exterior light fixtures and other details will continue throughout both phases. *Barbara Knecht*

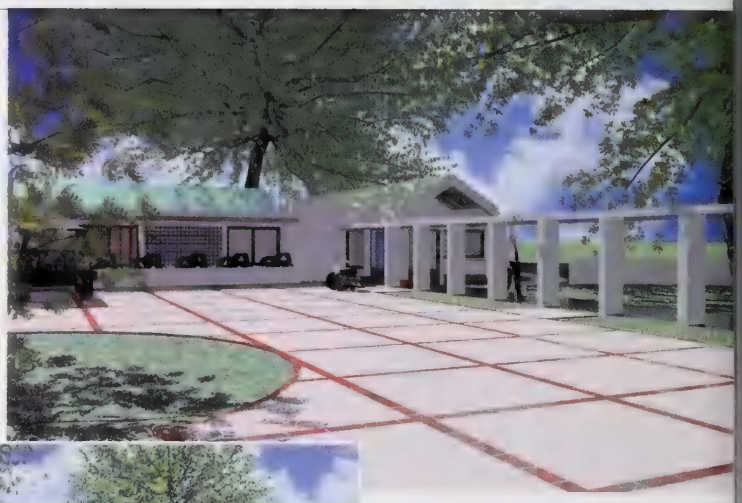
"Smart home" technology is giving people with disabilities a chance at independence

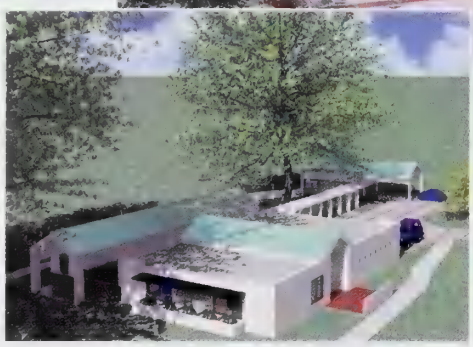
Thirty years ago, the most advanced technology available to many disabled people was a motorized wheelchair. Thanks to the vision of James McGuire, executive director of the Ann Storck Center, people with disabilities in south Florida are acquiring a new level of independence through the application of the same technologies that have been used to increase convenience in corporate boardrooms and luxury houses.

The Ann Storck Center, a Fort Lauderdale not-for-profit agency serving children and young adults with severe and multiple disabilities, built Gizmo House in Plantation, Fla., for six such people who live in a group home. At Gizmo House, so-called because it is wired with "smart home" technology, residents are able to perform tasks most people take for granted: open doors, make telephone calls, get their own snacks, and even prepare meals. A touch-screen monitor is mounted on each resident's wheelchair and connected to a central computer.

A second, new and improved wired house, Project Hope, will start construction soon in Ft. Lauderdale. Inspired by a conversation with a biomedical engineer concerning robotics, McGuire spent more than a decade raising the money, assembling the team, designing the technology transfer, and building Gizmo House, which opened in 1998. The technology gives young adults with the mental ability to make choices a physical ability to act on them. "The whole intention was to give the residents as much independence as possible," says Bruce Wrobel, the computer engineer for the projects.

Typically, this kind of technology is used by corporations for three-way video conferencing or in high-end homes for controlling security gates and alarms remotely. The technology transfer required that these systems be adapted to the particular needs of multiply disabled people.





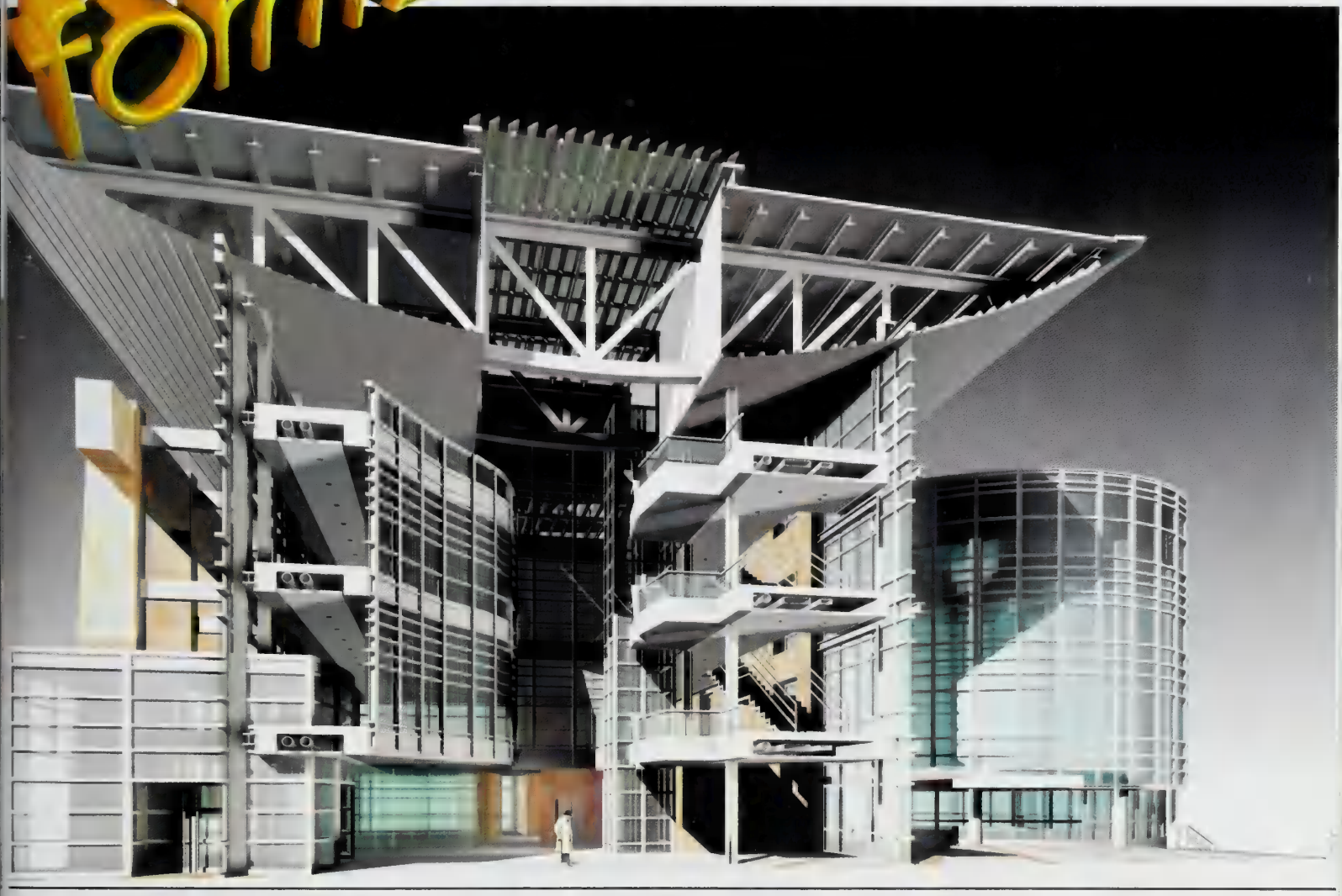
Project HOPE (above) will have several technological improvements over the Gizmo House.

The control center is a rack-mounted version of a desktop computer installed in the telephone equipment closet. The computer communicates with and coordinates multiple components, such as motors to open and close doors, or electronic devices to operate the TV and telephone. All these systems are directed through radio frequencies via one visual interface, the touchscreen monitor. It looks much like an ATM or restaurant ordering screen, with icons that are individually programmed to activate macros—an automated series of actions that allows each resident to control various functions in the house from his or her screen. For example, each person can open and close the front door and the drapes, turn lights on and off in the common areas, and raise and lower the dining-room table and kitchen counters. However, bedroom and bathroom doors can only be opened by the person to whom they belong, TV and radio channels are tailored to each resident, and a custom-designed vending carousel fitted into a refrigerator will deliver individually preselected food to its access door. An 18-inch-deep pantry with shelves that revolve like a ferris wheel makes all the contents accessible to people with limited reach. The bathtub has a rolling door that seals before the tub is filled with water. For some residents, this is the first time they've bathed in private.

The key to replication is design refinement and reduced cost. The cost of computers has gone down considerably in the past three years. The hard cost of typical south Florida residential construction is approximately $100 per square foot; Project Hope, with its technological and architectural enhancements, is projected to cost $150 per square foot. Upfront purchase of technology can reduce the cost of ongoing human assistance. Not only will widespread use of "smart home" technology revolutionize independent living for people with disabilities, it can simplify day-to-day tasks in all types of houses. *BK*

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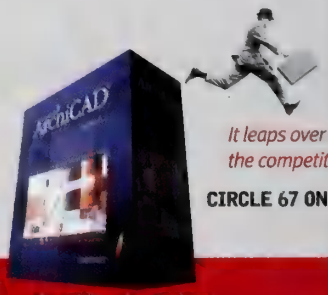
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How small firms survive technology

By Jerry Laiserin, FAIA

While listening to the news one Thursday morning last winter, New York architect Terry O'Neal, AIA, heard there had been a water main break at Fourteenth Street and Broadway, and made a mental note to allow extra time that morning to get to his office, located on the twelfth floor of a high-rise three blocks away. He didn't get there until the following Thursday. Surging waters from the broken main had flooded the basements of several area buildings, shutting off electricity and immobilizing elevators. Building officials barred dozens of tenants from their premises for nearly a week until the waters receded and power was restored.

All the computer files at his six-person firm, Terrance O'Neal Architect, were safely backed up to tape—a common practice for many businesses. O'Neal had methodically stored that tape, neatly labeled as Wednesday's incremental backup, with the tapes for Monday and Tuesday and the previous week's full backup in a locked, fire-resistant cabinet near his desk. But those tapes and their irreplaceable contents—like everything else in the office—remained inaccessible for a week following the flood, putting O'Neal out of business during that time.

Contributing editor Jerry Laiserin, FAIA, provides strategic consulting services to architects and their technology providers.

WWW For more information on technology for architects, including reviews, vendor lists, and links, go to Digital Architect at www.architecturalrecord.com

After the flood

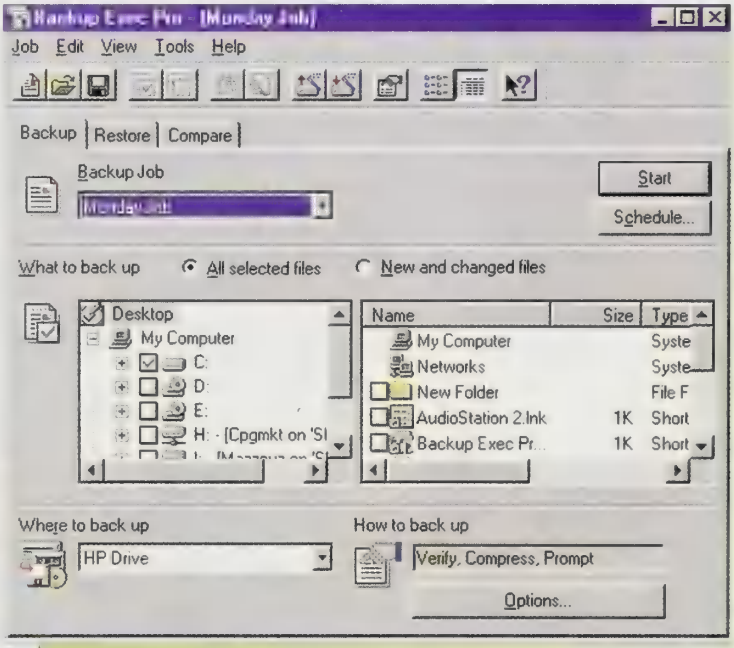
Unpredictable events such as these provoke anxiety in even the most well-prepared firms. "It's not just the cost, it's the stress factor too," says O'Neal. "As a principal, you've got people who depend on you for a paycheck and clients who expect work done, and you're just helpless. It's a tough way to learn what computer gurus mean when they recommend saving a backup copy of files off-site. After the flood, I started taking the previous day's incremental backup tape home in my briefcase every night."

Even that precaution proved insufficient when, a few months after the water main break, the power supply in O'Neal's network file server failed. He explains, "We had our tape backup drive physically installed on the same machine as our server. Having no power on the server meant we couldn't restore our files from the backup tape." While he waited for the replacement power supply, O'Neal first tried reinstalling the tape drive in one of his regular workstations but discovered the drive was incompatible with the non-server PC. He finally resorted to a risky maneuver—he took the hard drive out of the server PC and installed it in another workstation. "Since then, we've created redundancy on everything," he adds. "The backup tape drive is installed on another machine, not on the server, and we back up files saved on the server over our local area network."

Make a list, check it twice

In a six-person firm like O'Neal's, with average billing rates approaching $100 per hour, the cost of a day's downtime is nearly $5,000. The cumulative value of the work products stored on a firm's computers can run easily to hundreds of thousands of dollars. Therefore, solo practitioners and principals of small firms should take a risk-management approach to the possibility of data loss and business interruption. As with choosing professional liability insurance, architects have to weigh the cost of protection-against-loss versus the level of risk they are willing to bear. Architects, especially those in small offices, may not need or be able to justify investing in the sorts of fail-safe redundancies that are typically built into computer systems for large ventures, such as airlines, hospitals, or Wall Street trading houses, for whom unanticipated work stoppages could be devastating or life-threatening. But design firms will benefit from well-planned, reasonable precautions.

Since founding his firm in 1993, O'Neal has come to rely more and more on computers for carrying out the work of the firm. Staff members now use a full gamut of software: AutoCAD and 3DStudio for design and visualization; PageMaker and PhotoShop for reports and presentations; ACT! and QuickBooks Pro for marketing management and financial management, respectively; and Microsoft Office for general administrative work. "As a principal, I knew I had to be just as hands-on with the



Backup software such as Backup Exec Desktop Pro from Veritas, easily configures itself to suit the systems on which it's installed.

software as my employees," notes O'Neal, who admits to "having had a bad time" when his employees initially knew CAD better than he did.

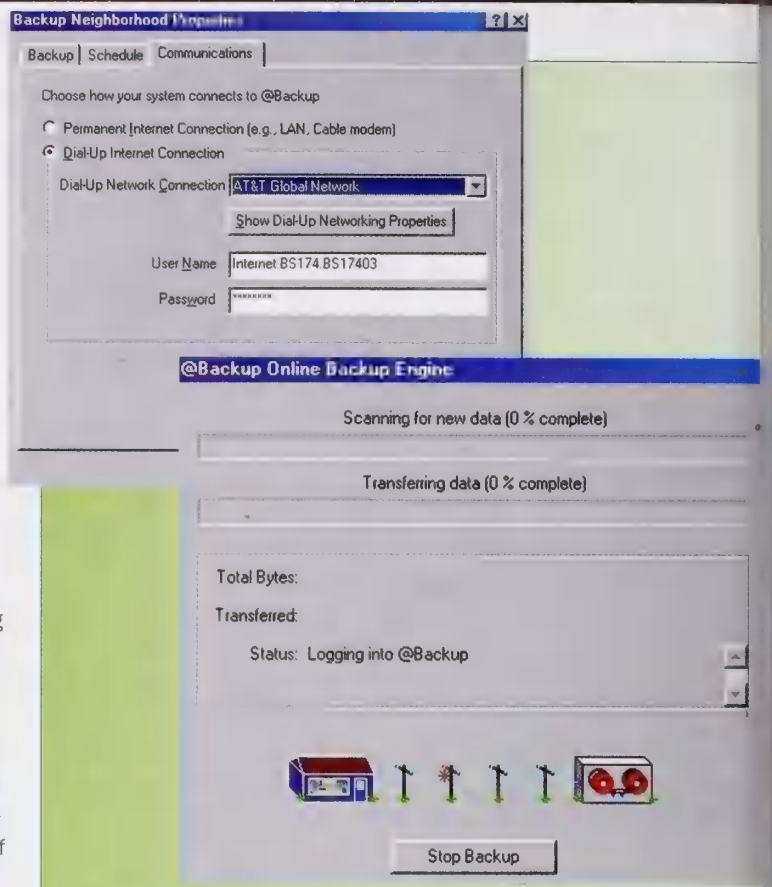
After two costly business interruptions showed him how dependent he'd become on the availability of his software and data, O'Neal did some hard thinking. "I sat down and thought through what could go wrong in case of emergency and came up with a plan B to work around those problems. Then you have to consider what might happen if plan B doesn't work, and develop a way to work around that. Finally, I summarized these contingencies in a written disaster plan, so that the firm is prepared to cope with these events." Disasters for which contingencies should be considered range from electrical or mechanical failures of individual computers and components, to man-made and natural catastrophes such as fire, storms, and earthquakes, to personal or medical problems affecting the availability of key personnel.

Whatever the danger, O'Neal sees redundancy as the first and most affordable line of defense. In addition to his seven computers (six PC workstations and a file server), O'Neal now keeps a spare computer in the office, "in case someone's PC crashes." The spare pays for itself if it saves one day of work for one person each year. Similarly, O'Neal rarely finds it worthwhile to repair a defunct PC. "For the cost of the repair, plus the value of your time spent without the machine, it's often cheaper just to replace it," he observes, although he does keep three "half-dead" computers on hand and cannibalizes them for generic replacement parts such as power supplies or disk controllers.

Procedures can be just as important as hardware redundancy in ensuring continuity of business operations. Besides backing up files every night and taking the previous day's tape with him off-site, O'Neal has made "loose arrangements" with friends to use one another's offices in the event any of them loses access to their own premises. Recognizing that few of his friends will have identical hardware and software for backing up files, O'Neal has begun to use CD-ROM disks for this purpose instead of tapes. Although their 650-megabyte storage capacity is less than that of many tape formats (which can store as much data as a dozen or more CDs), they are adequate for backing up files produced daily by a small firm. Almost all new computers can read CDs, but O'Neal now buys machines with special devices called CD-RW or "rewritable" drives that can both read and record information onto these disks. The cost of adding a CD-RW drive to a computer is under $200, and the disks themselves cost about a dollar apiece. O'Neal considers this an affordable insurance strategy that enables him to take his backup data anywhere.

Recently, O'Neal started researching online services that allow him to store backup information on the Internet in geographically remote locations. "Depending on where you are in the country, you may face a problem like an earthquake or hurricane that makes your friends' and neighbors' offices just as inaccessible as your own. Having a copy of your data stored elsewhere might be a good idea. It all depends on how much work you can afford to do over." Considering the risk associated with many Internet businesses, it is prudent to use such services as a supplement to, rather than a complete replacement for, conventional backup.

A firm's software policies also can affect how much work is at risk. For example, O'Neal insists that the "automatic save" function in AutoCAD be set for 10 minutes. This means that CAD files are automatically copied from local hard drives to the server every 10 minutes and, in the event of a power outage or other disruption in computer operation, any work done since the last autosave can be recovered on an individual's local hard drive. It's also good policy to keep a secure record, both on- and off-site, of all software licenses, standards, directory structures, and user passwords.



Internet-based services such as @Backup from Skydesk provide automated backups from any Internet-connected PC.

Keeping current

O'Neal learned most of these procedures in the hard school of trial and error. Large and mid-size firms may have full-time technology staff or at least one person with part-time computer-support responsibilities, but a solo practitioner or small-firm principal must juggle technology chores alongside the urgent demands of design, marketing, project management, and client relations. "You need several sources of information to keep up to date efficiently," he says. First, he learns from peers by talking with them about technology issues at local AIA chapter events, especially his chapter's Information Technology Committee. He also tries to attend at least one technology seminar each year at the AIA National Convention, and finds those presented by the AIA Small Projects Forum to be the most relevant to firms like his. CAD magazines provide many helpful tips and tricks for managing the work process; O'Neal turns to general-purpose computer publications only when shopping for new hardware.

Most important, firms must remain vigilant about possible loss of files and data, and they should periodically review both their equipment and current work practices to ensure they're not too vulnerable to the effects of such a loss. "Technology changes so fast that you have to work just to keep up," O'Neal concludes. "Someone has to stay on top of it, and in a small firm that's the principal's job. It's my name on the door. I want to be sure the door stays open." ■

"That was your big shot client on the phone, the head of the hospital building committee."

"Man, I'm trying to finish something else now. Is it important?"

"Yup. And you're not going to like it."

"What is it?"

"They think the new triage area should be a standalone—the workflow at the emergency room won't be affected so much at this stage. And they want to see plans and renderings. For both options."

"Figures. So what did you tell her?"

"Three days."

"Call her back."

"Hey, easy Steve. They're a big client. Can't you do it in three days? It's important to keep those guys happy."

"Call her back I said."

"And tell her what?"

"We'll have it this afternoon."

"That's crazy."

"That's Revit."

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JELD-WEN®



IWP® Craftsman style entry door with matching sidelights and transom (style #385)

JELD-WEN, inc. presents

New Door Styles Increase Designers' Options

Rich antique glass. Bright, glittering facets. Soft, glowing lenses. Imagine a larger-than-life looking glass of transparent, translucent and iridescent textures that change the light around them in a thousand different ways. This is the art of architectural glass. Combine art-like glass with a variety of wood species not traditionally found among door manufacturers' catalogues (not long ago everything was oak), and doors become an art form — part design, part sculpture and totally original. Fine art you can touch every day, say door manufacturers. Every time you come home.



Contemporary IWP® door with art glass crafted by glass designer Shelly Jurs (style #262)

Collaboration between high-design door manufacturers and glass pioneers like Shelley Jurs has resulted in an explosion of new styles and combinations that permit the designer, for the first time, to make a wide range of architectural statements. Furthermore, style has been enhanced by functionality. Today's doors are generally stronger, more energy efficient and more resistant to weather than in years past.

Manufacturers say new door lines combine "age-old architectural details" with modern-day lifestyle conveniences. There is a growing reliance upon new materials in the new door lines, and even traditional solid hardwood doors have new faces. As a result, architects have many more choices today than they did just a few years ago. Oak once dominated the hardwood door market. Today's doors, increasingly, are made from a broad range of wood species: vertical grain Douglas fir, Western hemlock, mahogany, cherry or maple, to name a few.

AIA/ARCHITECTURAL RECORD
Continuing Education

Use the learning objectives below to focus your study as you read New Door Styles Increase Designers' Options. To earn one AIA/CES Learning Unit including one hour of health safety welfare credit, answer the questions on page 184 and follow the reporting instructions on page 210. Use the Continuing Education self-report form on *Record*'s Web site, www.architecturalrecord.com.

Learning objectives

- Describe innovations in glass doors.
- Discuss style trends in entry doors.
- Compare materials available for entry doors.

"Mission architecture, or Shaker architecture, Frank Lloyd Wright or Craftsman style construction, whatever you want to call it, is very popular now," says the spokesman for a West Coast manufacturer. "As a result, there is a considerable outpouring by door manufacturers to keep pace with that new trend."



IWP® Estate™ door (style 1321) with iron-accented sidelights (style #1101)

TODAY'S DOORS ARE CLEANER, LARGER

The new doors are characterized by "cleaner" lines and squared sticking, in many cases, flat, rather than raised panels.

Knotty or distressed doors, both for interior and exterior applications, once very limited, are finding their way into new homes across the country. The stylistic swing has spurred U.S. door manufacturers to broadly expand product lines, and to incorporate systems designed for ease of installation. At the same time, low maintenance is coupled with the energy efficiency of modern materials.

The new style lines offer the customer a wide variety of options: door shapes can now be flat on top, Gothic, segmented or radius-top. They come in more than two dozen stain and finish color options, with either smooth, heavy-textured wire brush, hand hewn or distressed finishes. Entryway doors, once nearly universally sized at 3'0" by 6'8", are larger — three-and-a-half feet wide and up to eight feet in height. The new larger doors were once a custom item, but are now readily available within the same schedule as conventional-size doors.



The new pre-hung doors typically are sold with hardware and other door components — doorframe, jamb and moldings - made from the same wood stock.

One manufacturer's new Craftsman-type doors are available in maple, cherry, oak and alder and come in four designs with extra-wide six-inch stiles and flat panels held in place with square molding. The doors can be matched with sidelights and transoms to create complete entry systems.

Craftsman styling is enjoying a renaissance that is apparent among door manufacturers. The design origins are in the Arts and Crafts movement of the late 19th and early 20th centuries in England and America. The mass production of the industrial revolution was rejected in favor of art and architecture crafted by hand of natural materials. The movement reshaped American architecture and furnishings, and from the late 1800s through the 1920s, U.S. artisans adapted the distinctive Craftsman look to small houses and bungalows and to the furnishings inside. Now those same styles are being replicated.

When determining door designs, it is important to consider the finish that will be applied. Different stains or varnishes can draw out highlights and grain patterns unique to each wood species.

Generally, hardwoods tend to stain more evenly than softer wood, such as pine or fir, and various species of wood vary in the grain type (close-grain or course-grain) and in the grain pattern. Some grain patterns are more distinctive than others.

Alder, cherry and maple are close-grained (or tight-grained) species. They look good with a clear varnish or a whitewash stain.

Cherry, alder and mahogany all stain very evenly. They look nice dark stains (such as a chappo or merlot.)

Oak has a coarse grain pattern, is distinct when stained in warmer colors such as chappo or wheat. The distinctiveness of the grain pattern in oak is emphasized when stained in darker colors like dark cherry or ebony.

Walnut has a very beautiful grain pattern—not as coarse as oak. Walnut is a dark wood when unfinished, so a clear varnish or a chappo color work well.



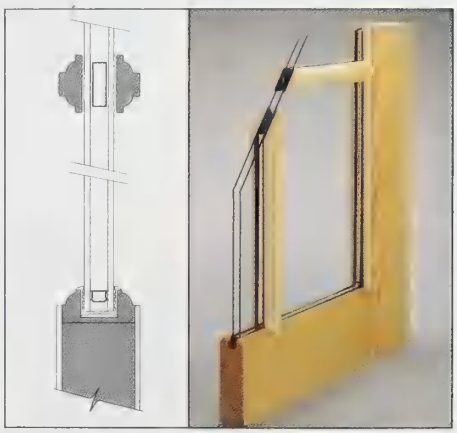
Nord® double-door entry system (style #4681) with coordinating transom (style #7681)

Ordering the door prefinished from the manufacturer often yields a more professional, longer-lasting finish, according to one manufacturer.

Manufacturers have recently begun to offer a new line of Western hemlock doors, available in sizes up to seven feet in height. Unlike other woods, Western hemlock contains no pitch or resin, so there is little chance of "pitch bleed" which can mar the finished surface of other wood doors. And Western hemlock grows harder with age, which means that doors made of it can withstand heavy wear and tear. Western hemlock has a naturally light color that will not darken with age, which makes it a good choice for a variety of finishes ranging from light to dark.

COMPRESSION GLAZING FOR STRENGTH, EASE OF MAINTENANCE

New exterior French doors are specially constructed with low-e thermal pane glass glazed directly into frames, making them unusually weather-tight and secure. The glass is inserted directly into the stiles and rails of the door, which are then assembled like a puzzle. Glass inserts have traditionally been installed only after the wood portions of the door were completely assembled; in contemporary "compression-glazed" doors, glass is installed and assembled in much the same way as the door's wood panels. Compression-glazed glass thus becomes an integral part of the door.



Compression glazing makes the glass a more integral part of the construction, reducing the possibility of infiltration

"We can get a better seal around the glass, and we have greater control over the appearance through mechanical compression glazing," says a manufacturer. Compound beads are uniform, miters are much more exact and mechanically glazed doors perform better in all kinds of weather.

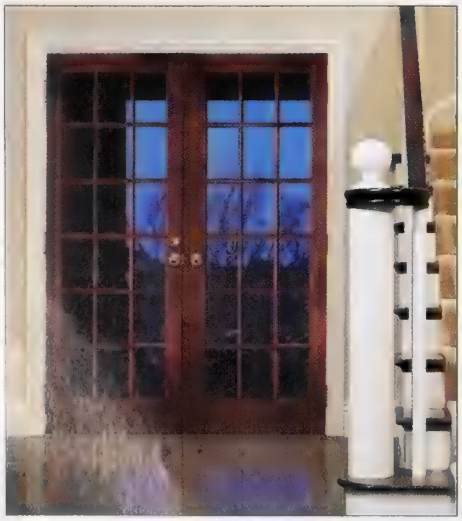
The chance of a seal failure in the new doors has been greatly reduced over doors with traditional glazing, according to manufacturers, and compression glazing results in a stronger door because corner joints fit with a higher degree of exactness.

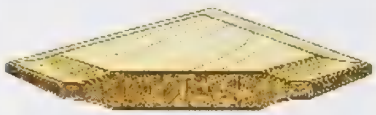
Up to three-quarters of all doors made today by some manufacturers are compression glazed. The change is relatively recent. As little as five years ago, for instance, glass was installed in 90 percent of all doors only after door assembly was complete.

While true divided lite doors may be beyond the budget and also diminish energy efficiency, new products simulate the look and effect of traditional divided lite openings, but employ modern energy efficient technology and increased weather resistance. Manufacturers have responded to a new demand for a traditional look with a number of options. Systems that employ more substantial mullions and patterns that replicate true divided lites and which can be accessorized with sidelights and transoms. There are also fixed units in a variety of shapes and sizes to help designers achieve the look of historical accuracy.

Simulated divided lite grilles, applied directly to full-frame, tempered glass in many of the new lines, also decrease the chance of seal failure, and because full-frame glass has only four sealed edges, the modification of traditional divided lite doors makes for an extremely rigid door structure.

An added side benefit is that single-sheet tempered glass doors require fewer unsightly, but federally mandated, "tempering bugs," the engraved labels specifying ANSI compliance. On a 15-lite design, for instance, tempering bugs have been reduced from 15 to one.





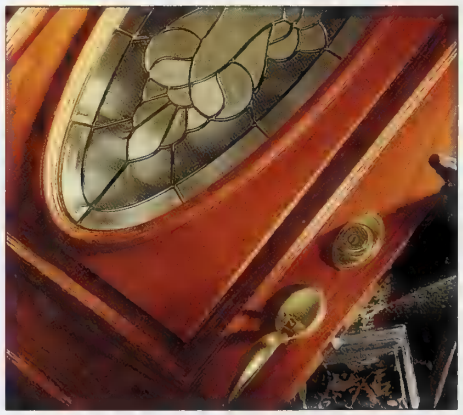
Super stable MDX thermal panel with beautiful bookmatched real wood veneer

New door lines frequently feature extra-wide stiles that can accommodate a greater variety of lockset options and provide decorating flexibility. Typically, stiles are engineered with finger-jointed cores and selected face veneers to provide strength and greater overall stability. Moisture and impact tests confirm it, say manufacturers.

Quality is worth searching out in entry doors: look for precisely matched miter joints. Designers can choose traditional edge-glued solid wood panels with precise detail and shadow lines, or bookmatched veneer on top of exterior-quality, medium-density fiberboard (MDX) panels for high stability and warp resistance.

In decorative glass, designers can choose from waterglass, baroque, gray baroque, clear beveled or clear seedy glass, and expanding new styles means that now, more than ever, you can match doors to architectural design, whether its Early American, English Tudor or Contemporary Ranch, Colonial, Craftsman, Rustic Country or Mission Mediterranean.

High-style door designs may have as many as nine different decorative glass textures, patterns and colors and be assembled with either brass or lead caming. Today's exterior-application glass is typically ⅞" thick and triple-glazed-decorative glass is encased between two pieces of tempered, clear glass.



Proper installation insures low maintenance



DoorCraft® steel exclusive 3-panel design with ¼ oval insert

Steel is the prevailing choice in more affordable housing, attractive both for its price and durability. Steel doors also are the appropriate choice for entryways exposed to sun and rain. Fusion-crafted wood composite exterior doors, whose tough surface is engineered from pressed wood fiber and resin, bridge the price and performance gap between steel and wood doors and are engineered to perform even in extreme summer and cold winter conditions.



8-foot Alterna® fusion-crafted wood composite door

Direct exposure to the sun and other weather elements are a lesser concern with composite (fusion-crafted) doors than with doors made of wood because the fusion-crafted door surface is engineered to withstand sun, rain, heat and cold, and has an insulating core like a steel door.

No product on the market, however, can match the beauty and versatility of wood, say most homebuilders.

But, to assure a low-maintenance installation of wood doors, consideration must be given to exposure to precipitation and sunlight. Surprisingly, perhaps, ultraviolet light can damage wood doors to an even greater degree than water. UV rays break down the finish on wood doors and will eventually deteriorate the face of fiberglass doors. To preserve a handcrafted wood door, it is advisable to shield it with an overhang to protect it from both water and sunlight.

As an insulator, wood is 400 times more effective than steel and 1,800 times more effective than aluminum.

The structure of wood — a composition of millions of tiny honeycombed cells between fibers — and its resultant thermal resistance, provides a warm feel to the touch regardless of the outside temperature.

Thermal tests on door assemblies measure the "U" value, or thermal transmission, of the door. Thermal transmission can account for about 25 percent of the total energy loss through the door. Steel doors without thermal breaks will transmit cold; wood resists the penetration of cold outside air.

The thermal quality of a door is also influenced by the type of glass used in its construction. Insulated glass has twice the performance of single glass; low-e glass can triple thermal performance.

There is general agreement that wood doors by far offer the greatest versatility in satisfying the most demanding tastes and a variety of application needs.

They can be built or sized to fit any opening. They are available in numerous species, which can be stained or painted to match any décor, there are designs to match anything from ultra-contemporary to stately traditional.

No composite product can match the number of panel designs, decorative glass options or hardware options available for wood entry doors. It is also understood there are certain exposures for wood that are not appropriate unless the consumer is fully understanding of the maintenance requirements for such exposures.

When you know that a wood entry is the only option that is going to satisfy the discerning tastes of your client make sure you plan accordingly.

A CASE STUDY



IWP® Craftsman style entry system (style #385)

The Craftsman design — and its Prairie Style and Mission Style cousins — stem from the Arts and Crafts movement. Four models in the contemporary Craftsman Series of entryways are highlighted by square geometric forms, bold linear planes and understated ornament. The doors are available in alder, cherry, maple and oak. Optional sidelights and transom are available with decorative glass touches such as French Crackle, Iridescent Granite, White Whispy, and square beveled jewels. The stiles are a generous 6" wide, and flat panels are held in place with squared moulding.

JELD-WEN

Founded as a small millwork plant in Oregon in 1960, JELD-WEN today is one of the world's largest manufacturers of doors, windows, millwork, and specialty wood products. Three of its subsidiaries manufacture handcrafted wood entry and interior doors:

IWP®, Morgan® and Nord®

IWP: Since 1965, International Wood Products, makers of the world's finest doors, has earned an unprecedented reputation among homeowners, architects and builders for creating beautifully handcrafted hardwood entry systems of mahogany, oak, maple, walnut and cherry. Every door is meticulously handcrafted and can be an entirely custom design. IWP remains committed to developing exceptional new door designs, entry systems and finishes.

Morgan: Since its inception in 1855, Morgan has been delivering doors of only the very highest quality which are designed, crafted and assembled with great care to create a product of remarkable beauty. Morgan uses only the highest quality materials throughout. No plastic fillers. No printed veneers. Just real oak, and pine that deliver strength and beauty in a wide selection of interior and exterior designs. Each Morgan® door is testimony to the craftsmanship and value that only wood can deliver.

Nord: Founded in 1925, Nord makes doors that complement the personal design of one's home. Intricate designs are crafted from fir and hemlock for exterior and interior uses. Nord offers a variety of wood stile and rail doors, such as interior and exterior entrance doors and bifolds, as well as sidelights and transoms. Nord, a world of designs at your door.

FOR FURTHER INFORMATION CONTACT: JELD-WEN
at www.jeld-wen.com or www.doors-windows.com
Or call (800) 877-9482, ext. CEU

Learning objectives

- Describe innovations in glass doors.
- Discuss style trends in entry doors.
- Compare materials available for entry doors.

Instructions

Refer to the learning objectives above. Complete the questions below. Then turn the page upside down and check your answers. Fill out the self-report form on page 210 and submit it or use the Continuing self-report form on *Record's* Web site, www.architecturalrecord.com, to receive one AIA/CES Learning Unit including one hour of health safety welfare credit.

Questions

1. What is currently available for wood entry doors?

2. What are the advantages of complete entry systems?

3. Why is compression glazing important?

4. When would you select a steel or fusion-crafted wood composite exterior door?

5. What are the advantages of wood entry doors over steel doors?

Answers:

1. The new trend in entry doors, more options - more wood species; finishes; styles and more sizes than available previously. Oak has been commonly used for many years as entry doors, but now other wood species such as walnut, cherry, alder, maple, mahogany, pine, fir, and hemlock are available. Each wood specie accepts stain differently, and stain colors vary from white wash to deep golden to a dark sepia brown. Door shapes are now available in a variety of options: segment top, gothic, radius and arched. Panels are offered as flat or plank, as opposed to the traditional raised panel design. Previously the standard entry door was 3'0" x 6'8", but now larger sizes, 3'5" x 8'0" for example, are no longer a custom item.

2. It is an advantage when the entry system components fit precisely together and match in species and color. The pre-assembled system allows for ease of installation. The sidelights and transom are manufactured at the same time as the doors, built of the same wood species allowing for consistency in staining. The recent offering of adjustable hinges makes door installations even easier.

3. In compression glazing the glass becomes an integral part of the door. Since the glass is pressed into groves cut in the stiles and rails, with all edges of the glass coated with glazing compound, it becomes a very weather-tight seal, a much better seal than traditional glazing. The chances of a seal failure are greatly reduced. Exact miter joints and bookmatched veneer MDX core panels improve the performance of the door as well.

4. Steel doors are a good choice when durability and price are considerations. Fusion-crafted wood composite exterior doors bridge the price and performance gap between steel and wood doors. Both steel and fusion-crafted composite wood have an insulating core, but composite doors offer better insulative value than steel. Steel and fusion-crafted wood composite doors hold up to direct sunlight (ultraviolet light) and weather better than exposed wood doors, so they are the products of choice when exposure is an issue.

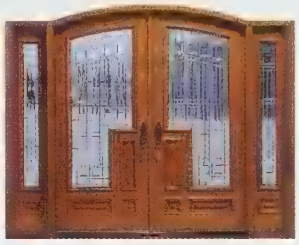
5. Wood entry doors have the advantage when the criteria are beauty and versatility. As an insulator, wood is 400 times more effective than steel. Wood resists the penetration of cold outside air and provides a warm feel regardless of the outside temperature. Custom designs can be created in any species, stained or painted to match any décor, and numerous decorative glass and hardware options are available.

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CIRCLE 68 ON INQUIRY CARD

METALLON



This urethane wall niche, which can be used in a garden setting or inside a home, has been transformed with the addition of a copper metal coating and green patina finish.

METALLON PRESENTS

HOT METAL TRENDS

Copper and brass are in. Platinum and chrome are out. Those are just two of the trends in metal usage that a variety of color experts see as popular in 2001 and beyond.

According to color trends expert Nada Napoletan Rutka, past president of the world-renowned non-profit organization, Color Marketing Group (CMG), the increased attention to metals is part of a 'back-to-nature trend' currently underway.

"Metals typify natural materials, and for this reason we see more natural finishes versus highly polished ones," says Rutka, founder/principal of Nada Associates, a color, design and marketing consulting firm in Pittsburgh. "For home furnishings, silver has been very important colorwise for the past few years. As we move forward, we are seeing a shift toward gold, as well as bronze and copper. These metals reflect the warmer colors of the new millennium."

Ken Geremia, manager of communications for the Copper Development Association (CDA), agrees with Rutka. He and his team at CDA, which educates consumers and building professionals on the copper industry, have seen a renewed interest in copper products in recent years.

"Architectural applications and specifications for copper are definitely on the rise," says Geremia. "Over the past 10 years, we've seen a continual increase of five to six percent in copper applications by architects on an annual basis.

"Copper roofing, gutters and flashing are especially popular items for commercial and residential projects. We believe the renewed interest in copper is because of its dependability, look, feel and longevity. Copper was extremely popular in the early 1900's. We're seeing its popularity cycle again now with increased interest in using metals as design accents both in and on homes."

AIA/ARCHITECTURAL RECORD CONTINUING EDUCATION

Use the learning objectives below to focus your study as you read HOT METAL TRENDS. To earn one AIA/CES Learning Unit including one hour of health safety credit, answer the questions on page 190 and follow the reporting instructions on page 210. Or, use the Continuing Education self report form located at www.architecturalrecord.com.

LEARNING OBJECTIVES:

After reading HOT METAL TRENDS you will be able to:

- Explain the impact metals are making in residential and commercial projects.
- Describe the ways in which building products with metal finishes can be used to enhance a design.
- Discuss the metal trends taking place in the design industry.

METALS GAINING IN POPULARITY

According to other experts, metals are gaining in popularity because of their solidity and lasting value. "I think metals are reflective of the desire for value and endurance in the home," says James Martin, president of The Color People, architectural color consultants in Denver, Colorado. "The look of hand forged and rich warmth available in cast metals creates this type of feeling.

"We're seeing a return to this look on everything from door hardware to curtain rods to book shelf brackets. The historic feeling is seen in railcar type bathroom towel racks and accessories. We're also seeing the influence of metals in light fixtures and lamps in both the arts-and-crafts and mission styles."

Leatrice Eiseman, author of "Colors for Your Every Mood" and the "Pantone Guide to Communicating with Color" believes the most important trend in metals is the use of burnished or metal surfaces as opposed to high sheen. "An ongoing trend is to treat metallic surfaces the same way the jewelry industry is doing by combining metals," says Eiseman. "You see brass combined with pewter, and gold and silver (or chrome) finishes combined as opposed to strictly limiting to one metal finish. This creates more excitement and warmth with metals.

"As a general rule, brass or gold finishes work with warm surfaces. Chrome or silver are better suited for cool colors and surfaces. However, adding a burnished or etched surface gives you more versatility and the metal finishes may be used in a combination of ways with both warm and cool colors and surfaces."





INCORPORATING METAL TRENDS INTO DESIGNS

Architects interested in incorporating metal trends into their projects have several options. Some products, such as copper gutters and metal roofs, can easily be specified in a plan. But what does an architect do when the products he wishes to specify --- such as interior mouldings or window trim --- come only in materials like wood and urethane?

New to the industry this year is a metal finishing process that solves this dilemma for architects. Several companies are offering real metal finishes that are cold spray applied to building product materials.

Made from 95 percent real metal with a five percent bonding agent, this spray application process allows architects to specify metal finishes on a variety of building products. One company currently offers brass, bronze, copper, nickel, stainless steel, aluminum and iron rust applied to acrylic block window frames and urethane millwork products for the interior and exterior of the home.

Available as an upgrade option from the product manufacturers, the metal finished products can be used in a wide variety of commercial and residential settings. Once the metal finish is cold spray applied to a product, it is hand polished by artisans to achieve different finishes including a hammered-looking textured finish, an elegant, deep-luster satin finish and a low-sheen hand-rubbed finish. Several other finish options also exist, including a rich, hand-detailed brushed finish, a pale-green naturally aged green patina finish that exhibits old world charm, and a hand-polished antiqued finish.

Architects have the option of specifying a clear lacquer coat over a piece that has been finished with the metal process or to leave the piece natural. Since each product is coated with actual metal, an unlacquered product will age and weather naturally, like a statue in the park. When specified, a lacquer coat can be applied to the product that retards the aging process and protects the finishes created by the artisans.

MARRIAGE OF UNIQUE MATERIALS

One of the more exciting elements of specifying metal finishes for architects comes with the marriage of different materials for a residential or commercial project. For example, vinyl windows, which traditionally have either white or tan vinyl frames, can now be coated with metal finishes. This transforms the vinyl windows into showpiece elements of the home, yet retains all the positive low maintenance and insulation qualities of the vinyl frames.

Known for its durability and strength, the metal finishes in the marketplace today have met and exceeded rigorous testing. The metal finishes can withstand 1500 PSI before pulling away from its base material (such as the vinyl of a window frame or urethane trim).

Surprisingly lightweight, the metal finishes add less than four ounces per square foot (about the weight of three sheets of paper) to the surface of a product. Although lightweight, the enduring real metal compound finishes will not shrink, fade, crack, chip or peel. Other advantages of real metal finishes are that they meet Class A, Class I heat resistant tests (the finish will not support a flame) and the product does not conduct electricity.

"For architects interested in capitalizing on the popular trend of metal usage in commercial and residential projects, I can think of no better way than to specify metal finishes on 'routine' building products," says Sherry H. Mitchell, IIDA of Jamestown, NC. "We've seen that these finishes add little or no additional mass to the object's original weight. The cold-composite metal finishes feel, look and act like hot-cast metal. This is one of the most unique methods we've witnessed to transform and enhance building products."



Case Study #1

SPECIFYING METAL FINISHES

One company making it easier for architects to bring metal accents into home and commercial settings is Metallon, Inc. The West Virginia-based company offers METALLON™ metal finishes as an upgrade option on products such as millwork, trim and windows.

These metal-finished products were used by the team at Fairway Construction in Michigan when asked to design and build a stand-alone kitchen and bath addition as the showcase project for the 2000 Model/reModel project.

The high-end project was created to give remodelers attending the 2000 Remodelers' Show in Detroit unique product and design ideas. To achieve this goal, the Fairway Construction team researched and selected products that complemented each other for the upscale project. One of the first products selected was METALLON.

WINDOWS WITH METAL FINISHES

"METALLON gave us the opportunity to unify the entire design theme," says Wolfgang Dorsch, director of architecture at Fairway Construction. "A terrific example was the Simonton Metallure™ bay window in the eating area of this project. We had twin casement windows mulled together. The frames featured copper METALLON in a satin finish. That helped the entire unit look more cohesive and attractive."

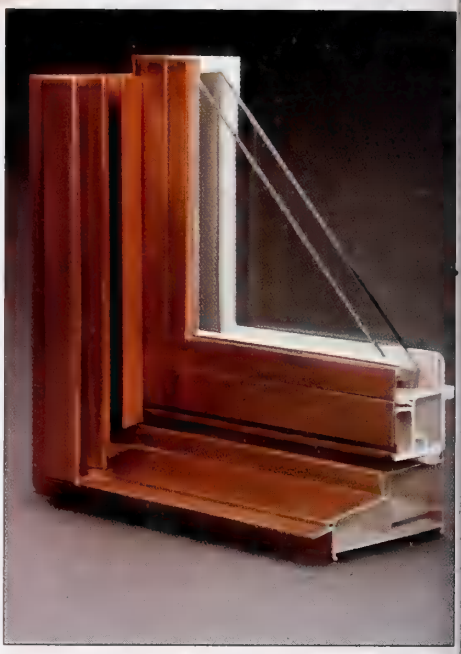
Another casement window unit was installed in the kitchen. This window featured nickel METALLON on the frame in an antiqued finish to complement the stainless steel appliances in the kitchen.

Moving through the addition, Hy-Lite® Products supplied a retrofit acrylic block window in the bathroom with a textured antique finished METALLON brass frame. Designed to provide privacy to the potential homeowner in the bath, the clear wave block window came as a full unit that had a vinyl frame covered with the metal finish.

"The brass METALLON on the window frame perfectly matched the brass fixtures and accessories in the bathroom," says Mary Olk, owner of Designer Interiors. Olk, who worked as an interior design consultant on the project, relied on the metal finished products to give a more connected look to the home.



Hy-Lite French entry door with sidelights with nickel METALLON in antiqued finish.



Simonton Metallure window cutaway with copper METALLON on frame

"The acrylic block window in the bathroom was balanced out in the addition by the use of Hy-Lite products as sidelites surrounding a set of interior French doors," says Olk. "We showcased copper METALLON with a satin finish on the eating area side of the sidelites and antiqued nickel METALLON on the kitchen side to unite the door with the stainless steel appliances in that room. The products finished with metal seemed more 'connected' to the overall home design, giving it a unified look."

METAL FINISHED TRIM

The interior French doors and every window in the project were surrounded by urethane millwork by Style Solutions™ Incorporated. Known for their low maintenance benefits and ease of installation, Style Solutions products are made of high density urethane. The company offers metal finishes as an upgrade option on many of its moulding, trim and millwork pieces.

"METALLON added a great deal to the Style Solutions trim pieces for this project," says Dorsch. "The mouldings on both the interior and exterior of the home matched the windows and sidelites. These mouldings were the perfect accent pieces for the overall theme of the addition."

Case Study #2

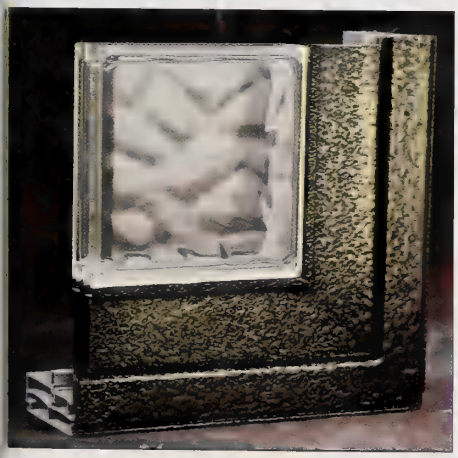
TRENDY METALS IN KITCHENS AND BATHS

Whether it's a home kitchen sporting all the professional stainless steel appliances normally found in a five-star restaurant, or a master bathroom featuring elegant brushed nickel hardware, metals are fast becoming the "in" design product in the home. This escalating trend is being markedly felt in kitchens and baths, two of the most popular rooms of the home.

"Warm metals, such as copper and bronze, are becoming especially popular in kitchen and bath settings," says Mary Jo Peterson, CKD, CBD and president of Mary Jo Peterson Design Consultants in Connecticut. "These warm metals complement the growing trend of using hues from the orange family — which can range from pumpkin to terra cotta to tangerine — as accents in the home.

"Blue is the color that most industry professionals agree will have the greatest impact in the coming years. Cooler metals, like stainless steel and nickel actually strengthen shades of blues ... especially when they have a brushed or satin finish. And, the warmer metals like brass and copper contrast well with the blues to create an interesting mix. Whichever way you look at it, metallic finishes and real metals will continue to grow in popularity during the next several years in the home.

According to Peterson, author of the book, "Universal Kitchen and Bath Planning" 'mixing and matching' metals has become more popular in the home, especially in kitchens and baths.



Textured nickel METALLON gives a new look to a Hy-Lite Products window cutaway.



"The love that homeowners have for stainless steel in the kitchen has segued into bringing other metals, like copper and nickel, into the kitchen," says Peterson. "This opened the door to having other metal accents throughout the home. A window with a bronze metal finish in the bathroom plays perfectly with bronze towel racks and lighting fixtures."

ADDING METAL ACCENTS

One way architects and designers can add metal accents to a home is with building products finished with metal. METALLON, a real metal coating, captures the design and detail of the surface it is applied to, such as intricate crown mouldings.

Applied individually by hand in lightweight, multiple thin coats of real metal, METALLON is available with hand-buffed finish options on seven different metals. The resulting pieces can be used throughout both the exterior and interior of the home as metal accents.

"Metal finished products are especially popular in kitchens and baths," according to Shawn Draper, president of Metallon, Inc. "We're seeing architects specify urethane crown moulding finished with copper METALLON installed in kitchens with hanging copper pots to 'enclose' and warm up the entire room.

"Bathrooms featuring acrylic block privacy windows are getting trimmed out in brass to complement brass plumbing fixtures. Windows over kitchen sinks are finished with the stainless steel metal to align the room with an abundance of stainless steel appliances. The options are endless."

Available nationwide on Simonton Metallure™ windows, Hy-Lite® Products acrylic block windows and Style Solutions™ Incorporated urethane millwork products, METALLON is an easy way for architects to specify metal accents in the home.

"Metals bring depth and distinction to a home," says Draper. "METALLON makes it possible for architects to incorporate this growing decorating trend into every room of the home, including kitchens and baths."

LEARNING OBJECTIVES:

- Explain the impact metals are making in residential and commercial projects.
- Describe the ways in which building products with metal finishes can be used to enhance a design.
- Discuss the metal trends taking place in the design industry.

INSTRUCTIONS:

Refer to the learning objectives above. Complete the questions below. Then turn the page upside down and check your answers. Fill out the self report form on page 210 and submit it or use the Continuing Education self report form on *Record's* web site-www.architecturalrecord.com - to receive one AIA/CES Learning Unit including one hour of health safety welfare credit.

QUESTIONS:

1. What metal colors are being used for interior finishes?

2. What are the new trends in metal finishes?

3. In what ways are metal trends incorporated into interior finishes?

4. Where were copper finishes normally used in buildings?

5. Why have metals become more popular in home finishes?

ANSWERS:

1. Metal colors are popular in cycles. During the 1970's antique brass was popular. In the 1980's bright brass was the trend. In the 1990's the metals used in homes were silver in color, either pewter, satin nickel, or black nickel. Combining silver and gold has been a recent trend for bathroom faucets and hardware. Now the metal colors for the new millennium are warmer. We are seeing brown and orange tones in bronze, antique copper, and rust.

2. Combining metals, such as brass with pewter or gold and chrome, is a growing trend. Many color experts believe that the combination of metals creates more excitement and warmth. There's also a shift in the marketplace away from silver and towards warmer metals such as gold, bronze and copper.

3. There is an increased interest in using metals as design accents in homes. Metals are found on interior finishes in more places than before. Accent copper or bronze wall tiles are being mixed in with ceramic tiles, metal countertops and backplashes are being used. Metal hardware that was concealed in the past decades is now being exposed and has come back with a pronounced enthusiasm. In cabinetry, pulls are more the focus than the wood. In window coverings, metal rods and rings are more the focus than the fabric. A new trend in adding metal into buildings and homes is to give window trim and moulding a metallic finish, changing them from a mundane trim to a spectacular trim.

4. Traditionally, copper has been used for roofs, especially on bay windows, guttering, and light fixtures on the exterior of buildings. These usually appear green due to the weathering process. Interior uses for copper were in the kitchen giving an old world look through tea kettles, stove vent hoods, and pot racks. The use of copper gives a vintage feel since it was used extensively in the 1900 era.

5. The use of metals is reflecting the desire for value and endurance in the home according to architectural color consultant, James Martin. The popularity of metal items also comes from the fact that they are being produced in more designs now than previously, which creates a market for those who want the newest trends. Metal finishes are available for other materials, usually vinyl or wood, so that a metal look can be achieved feasibly, without adding much cost or weight to a project. Metal finishes have been refined so that they are durable and low maintenance. Added to that the fact that they are inherently flame resistant, these properties make them an easy finish to specify.

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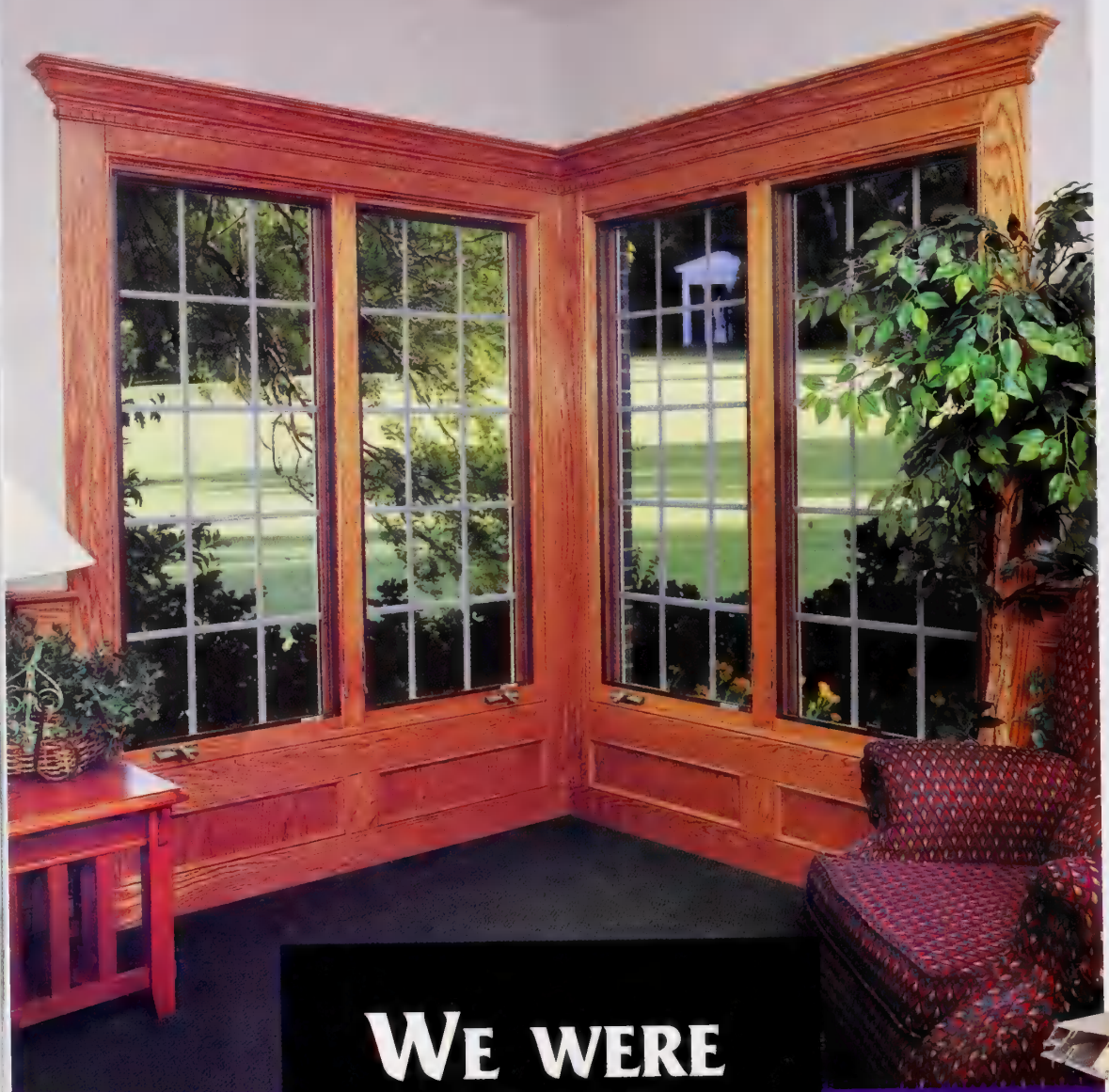
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CIRCLE 69 ON INQUIRY CARD

New Products

It's no surprise that a survey conducted by the National Fenestration Rating Council shows that architects are most concerned about product availability and durability when selecting a window manufacturer. Also, most indicated that they "often" or "very often" use energy performance information in selecting products. *Rita F. Catinella*

Envisioning the future of windows, while honoring the past



Frank Lloyd Wright art glass; tilt-wash double-hung window.

At the NAHB show held in Atlanta in February, Andersen Windows premiered a three-year venture, dubbed Project Odyssey, to envision how windows will evolve in the 21st century and beyond. In alliance with Philips Design, Design Continuum, and select building-products industry leaders, Andersen is studying how technological, environmental, and sociocultural trends will shape the window of the future. A select group of reporters, architects, builders, manufacturers, and government officials was shown futuristic scenarios that used existing (or conceptual) technologies in new ways. Demonstrations included transparent photocell technology built into the window that would allow it to generate electricity; an electroluminescent display in the corner of a window that could show information or images (such as the outdoor temperature); and a thin film transistor LCD that could show live or recorded video in the corner of a window (for example, parents could monitor kids playing outdoors).

At the show Andersen also launched the Andersen 400 series and 200 series. The 200 series tilt-wash double-hung window provides a simplified sash-tilting design, a low-maintenance, seamless frame cladding, interior and exterior finish options, double-pane insulated glass, and a modular sizing system.

The 400 series includes the Frank Lloyd Wright series art glass collection, which is inspired by four of the renowned architect's projects: Prairie Rhythm, a centrally composed series of squares; Wichita, which features a border pattern; Eucalyptus, an abstract plant motif with blue hues; and Colonnade, a strong geometric design of squares and rectangles. 800/426-4261, ext. 1232. Andersen Windows Inc., Bayport, Minn. CIRCLE 200

Divided Lites, double-hung wood windows





Simulated Divided Lites (top); Wood Ultimate Double Hung (bottom).

Marvin offers three ways to personalize windows: Authentic Divided Lites (ADL), Simulated Divided Lites (SDL), and removable grilles. ADL features separate pieces of glass individually glazed between muntin bars; SDL bars are permanently adhered to both sides of the glass in various patterns, whereas solid pine grilles, installed on the interior, are easily removed and put back in.

The Wood Ultimate Double Hung window features an exterior surface with a solid wood profile that meets most historic restoration criteria. The jamb exposes minimal vinyl to the wood interior, and the window is available with the Low E II and argon gas option that meets the requirements for the Energy Star rating. 888/537-8268. Marvin Windows and Doors, Warroad, Minn. CIRCLE 201



Looking at windows from a new angle

Eagle's clad, geometric windows allow for the custom design of octagons, pentagons, trapezoids, and triangles, by combining similar or dissimilar units and matching them with operating double-hungs or casements. All wood members are select kiln-dried, water repellent, and preservative treated. Design options include Eagle's Decorelle series decorative glass; Eagle's exclusive ⅛-inch or 1½-inch Modern Divided Light bars or economical Classic Divided Lights; removable wood grilles available in a ⅞-inch profile; 40 designer colors; and a choice of seven interior wood species. Windows are glazed with ¾-inch OA Eagle Maximizer Plus insulating glass (one inch for windows above 15 square feet) with a low-conductance spacer. 800/324-5354. Eagle Window & Door Inc., Dubuque, Iowa. CIRCLE 202

New Products



◄ Clad casement

The Pinnacle Casement by Windsor is available with an extruded aluminum sash and frame. In addition to extruded aluminum, the Pinnacle also comes with a premium Clear Select Pine interior. Windsor's new casement sequential locking system is easy to operate and gives the window a sleek look with less visible hardware. 800/887-0111. Windsor Windows & Doors, Des Moines, Iowa. CIRCLE 203



▲ Southern exposure

During the past several years, Candy Zirngible and the Architectural Services team at Weather Shield have witnessed an increase in both the size and the design complexity of bathroom windows being specified by architects. "We're seeing many unique shapes and styles incorporated into windows," says Zirngible. "Connecting with the outdoors seems to be very important." Weather Shield offers bathroom windows in six product lines for both new construction and remodeling projects, including windows in all-wood, vinyl- and aluminum-clad wood, and all vinyl. 800/477-6808. Weather Shield Mfg. Inc., Medford, Wis. CIRCLE 204

► Jamb extensions

CertainTeed now offers jamb extensions for its lines of new-construction windows. The extensions, which are applied to the window during manufacture, eliminate the need for the field application of drywall returns or wood returns, and reduce material costs and interior finishing time. They are available for all window styles, including geometrics. 800/223-8990. CertainTeed Corporation, Valley Forge, Pa. CIRCLE 205



► Metal-coated view

Simonton Metallure replacement and new-construction windows are coated on the inside, outside, or both sides with a choice of four metals—brass, nickel, copper, or bronze. The windows have the Metallon finish, a coating containing over 95 percent metal that adheres to surfaces after a cold-spray application process. Currently, Simonton Metallure windows come in bay, bow, casement, awning, picture, and geometric styles. Shown here is a Simonton Metallure bay window in bronze featuring a picture window and casements with bevel-cut glass. 800/542-9118. Simonton Windows, Parkersburg, W.V. CIRCLE 206





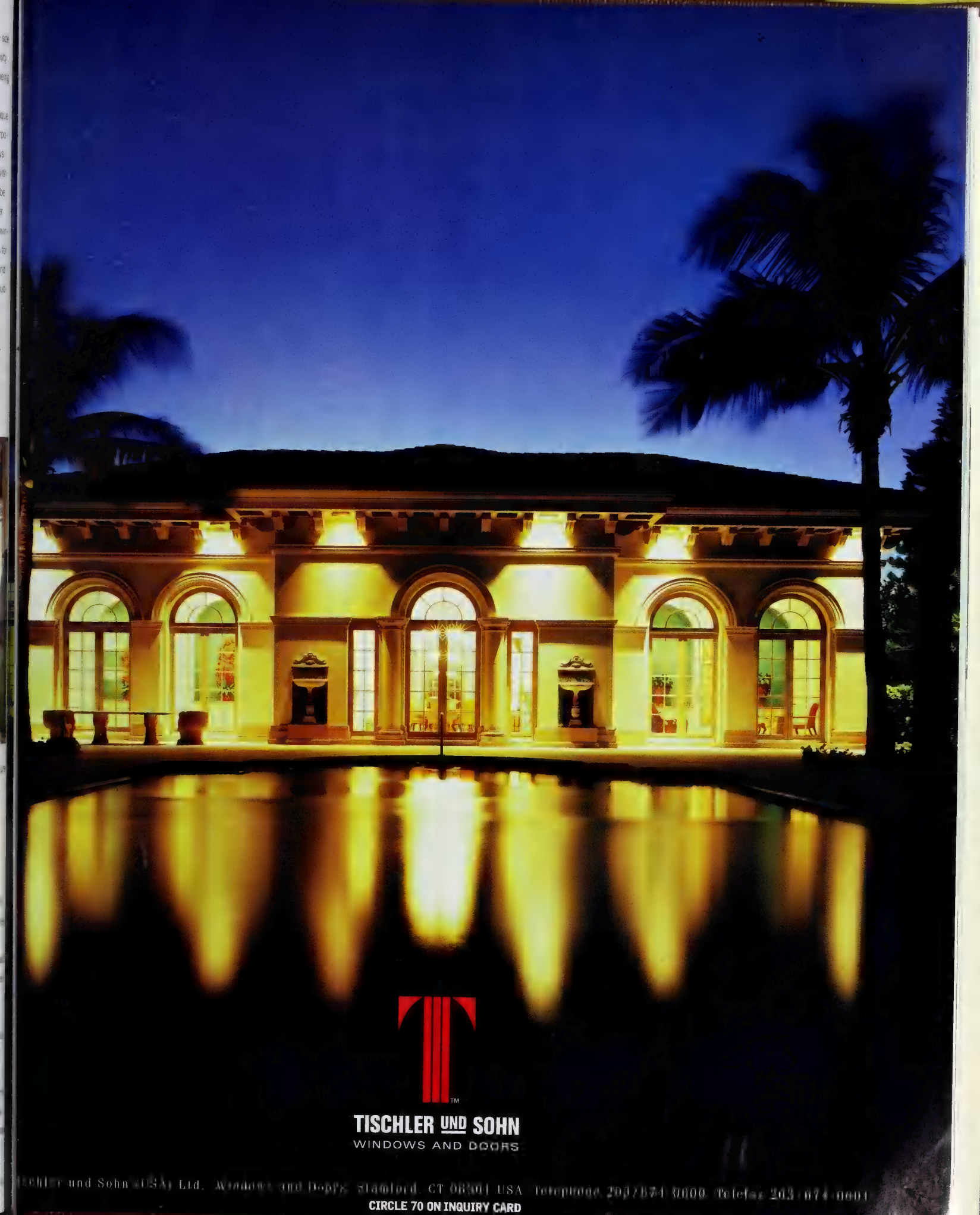
▲ Douglas fir and fiberglass windows

WoodClad windows are constructed using a combination of vertical-grain Douglas fir (known for its ease of staining and ability to resist dents and scratches) on the inside and fiberglass on the outside. WoodClad's fiberglass exterior offers the look of painted wood but will never crack, peel, or need repainting. WoodClad windows can be stacked and mulled to add drama and light to any design. A variety of glazing options are available. 800/MILGARD. Milgard Manufacturing Inc., Tacoma CIRCLE 207

▼ Highly detailed, handcrafted wood windows

Pozzi has introduced a horizontal gliding window that features such details as silicone slide buttons, precise hardware, cam action locks, and die-cast sash handles. The window is constructed from preservative-treated western pine with mortise and tenon joints and a Werzalit engineered wood sill. The overall glass thickness is ⅝ inch and the insulated glazing includes a warm-edge technology that prevents energy transfer from one side of the glass to the other at that point. 800/257-9663. Pozzi Window Company, Bend, Ore. CIRCLE 208





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CIRCLE 71 ON INQUIRY CARD

Product Briefs



◄ Subway styles

Now available in the U.S. is Appiani's Anthologhia Colori line of ceramic tiles for residential and commercial projects. The line includes miniature subway-style tiles in the Wall Brick series that can be composed to form herringbone, basket weaves, and numerous geometric patterns; the Domino series of geometric cutouts; Incisioni, a line etched with organic and geometric motifs; and Inserti, a hand-made series of mosaics. 516/627-0583. Fyndit Inc., Manhasset, N.Y. CIRCLE 209



► Square storage

Duravit is launching 4x9, a range of individual furniture items available in maple or cherry for the bath, kitchen, hallway, or foyer. The compartments can be configured either horizontally or vertically to fit the available area. 4x9 offers design solutions without remodeling; the fixtures can simply be hung on the wall for instant storage. Pull-out compartments come in a variety of colored polypropylene, including soft yellow, dusty blue, plain white, and a warm sepia tone. 888/DURAVIT. Duravit, Duluth, Ga. CIRCLE 212





► Above and beyond glass sinks

The Rock Ice above-counter lavatory from Porcher features a cracked-glass exterior and a smooth matte interior (bottom). The basin measures 18 inches in diameter and six inches deep and is available in aqua blue, black, slate, green, bronze, and clear glass. The Carnivale above-counter basin (top) is crafted of artisan-made glass in either red or blue. This basin is also 18 inches in diameter and six inches deep. 800/524-9797, ext. 199. American Standard, Piscataway, N.J. CIRCLE 213

Products of the Month Aquatic Pod/SkyHome



To complement this month's treehouse photo essay (page 104), here are some other structures found in strange places. The Aquatic Pod Suite (above) offers panoramic views above and below the surface of the water. Built for two, the 150-square-foot circular interior is furnished with a king-size bed, central air conditioning, mini-bar, Bose stereo, and a shower; outside, the suite is surrounded by a 6.6-foot-wide terrace. Unlike houseboats, the unit remains permanently anchored. A $91,100 price tag includes delivery to anywhere in the U.S. Like something out of *The Jetsons*, the SkyHome (right) rises from three to eight stories high or can be custom ordered at or above tree level. SkyHomes can be built as a guest home or private sky lounge with a single master bedroom, kitchenette, bathroom, and a custom home-automation and -entertainment system. 312/664-8170. Hammacher Schlemmer, Chicago. CIRCLE 211 616/454-5009. Skypad Technologies Int'l LLC, Grand Rapids. CIRCLE 210



► Contemporary take on the sauna

Allegro contemporary saunas distinguish themselves from their traditional counterparts by the winding curves and wide glass walls. Modular in construction and self-contained, all large pieces in the saunas, such as ceiling panels, benches, supports, trimming, and lighting, are preassembled, allowing installation in less than one afternoon. The A-200 (shown) features a heater, a movable upper bench and adjustable slanted backrest, cylindrical glass door, towel rack, shelves, and full-length mirror. Allegro's heating unit has programmable time and integrated temperature control. 800/76-STEAM. Sussman Lifestyle Group, Long Island City, N.Y. CIRCLE 214



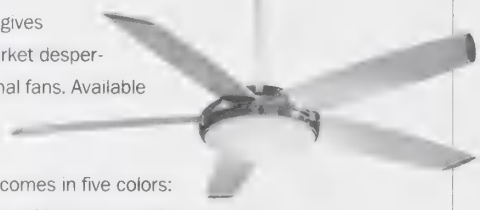
Product Briefs



◄ Customize a reproduction

British chimney manufacturer Chesney's has opened its first U.S. showroom in New York. Chesney's has access to several hundred stone and marble mantels warehoused in England. The company created the "bespoke service" to enable clients to mix and match various friezes, panels, and jambs, creating reproductions of their own. 646/840-0609. Chesney's, New York City. **CIRCLE 215**

► You'll be a fan



The eMotion fan from G Squared gives architects another option in a market desperate for well-designed and functional fans. Available in three speeds, the fan measures 54 inches in diameter from blade tip to blade tip, and it comes in five colors: indigo, graphite, sage, ruby, or snow. When you use the remote to change the speeds or control the light, LEDs on the rim of the fan blink to confirm the command. 877/858-5333. G Squared, San Luis Obispo, Calif. **CIRCLE 216**

► Clip art

The design team at Blu Dot (consisting of a sculptor/MBA and two architects) has introduced a group of wood-and-steel home-office furniture. Paperclip, the name of the four-piece series, refers to the chrome-plated, bent-steel-rod bases. The tops of the desk, cart, and shelves are plywood panels with Finnish birch veneer. The desk offers a generous work surface, a keyboard slide, and movable monitor stand. The printer/fax cart rolls on casters and has a ring below for hanging files. The CPU stand echoes the design of the monitor stand and fits under the desk. The 76-inch tall bookcase (shown) accommodates six shelves. 612/782-1844. Blu Dot Design & Manufacturing Inc., Minneapolis. **CIRCLE 217**



For more information, circle item numbers on Reader Service Card or go to www.architecturalrecord.com Advertiser & Product Info

ARCHITECTURAL RECORD CALL FOR ENTRIE

Record Interiors 2001

The editors of ARCHITECTURAL RECORD announce the annual RECORD INTERIORS awards program. This program is open to any registered architect; work previously published in other national design magazines is disqualified. Of particular interest are projects that incorporate innovations in program, building technology, and use of materials. The entry fee is $50 per submission; please make checks payable to ARCHITECTURAL RECORD. Submissions must also include plan(s), photographs (transparencies, slides, or prints), this entry form, and a brief project description, all firmly bound in an 8 ½-by-11-inch folder—postmarked no later than April 30, 2001. Winning entries will be featured in the 2001 RECORD INTERIORS. Other submissions will be returned or scheduled for a future issue. Please include a self-addressed envelope with the appropriate postage, and allow 10 weeks for return.

Submissions should be mailed to:
Sarah Amelar • RECORD INTERIORS • ARCHITECTURAL RECORD
Two Penn Plaza • Ninth Floor • New York, NY 10121

This form must be included with your submission. If you have any questions, please E-mail Sarah Amelar at sarah_amelar@mcgraw-hill.com

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Location of project:_____

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CIRCLE 72 ON INQUIRY CARD

Product Briefs



▲ Lincoln logs

The Logjam line of furniture, by Brandegee Designs, originates from hand-hewn logs and joists taken from deteriorating 18th- and 19th-century Pennsylvania log cabins and barns. The natural colors and rough textures of the wood pieces are paired with polished glass and stone, steel, canvas, and leather, used for tabletops and other parts. The Thicket Bed (above) is one of 30 standard designs, including dining, conference, and coffee tables; consoles; sofas; and bookcases. 412/521-6099. Robert Brandegee Designs, Pittsburgh. **CIRCLE 218**



► Old-fashioned workstation

Grandpa's Workbench island workstation is the hybrid of a kitchen table and a sturdy workbench. Crafted from durable maple and enhanced with stainless steel and galvanized metal, the island features full-size stainless drawers for larger tools on one side, and smaller drawers (with label bin-pulls) to organize smaller tools on the other. The tabletop is available in a choice of stainless steel, butcher block, or without a top if the specifier wants to furnish his own. 614/447-0849. Homebody's, Columbus, Ohio. **CIRCLE 219**



◄ High-performance range

Jenn-Air's new slide-in ranges have a low-profile, flush design and a new curved, frameless glass door. Jenn-Air expanded the air-intake valve and increased the fan speeds on its dual-speed systems, generating more uniform air circulation. The oven control panels feature scrolling time and mode displays, and cooking options include a built-in meat probe, delayed start, dehydration, keep warm, and rapid preheat. 800/JENNAIR. Jenn-Air, Newton, Iowa. **CIRCLE 220**

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CIRCLE 87 ON INQUIRY CARD

Product Briefs



◄ Under wraps

Dow Chemical is adding housewrap to its family of products for home construction. Styrofoam Weathermate housewrap is a woven, perforated, polyolefin-based wrap with a translucent surface that lets builders have a clear view of studs and sheathing during installation. 800/441-4369. The Dow Chemical Company, Midland, Mich. **CIRCLE 221**



▲ Stereophiles only

For the audiophile, the Odyssey electrostatic loudspeaker offers an ultra-thin transparent diaphragm that weighs less than the air it moves and reproduces sound at high-performance levels. Odyssey's sculptural cabinetry is available in matte black with a variety of hand-finished, quick-change trim options. 785/749-0133. Martin Logan, Lawrence, Kans. **CIRCLE 223**

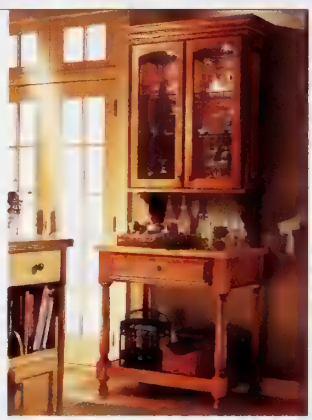
▼ Revealing architecture

Mary Miss is an artist whose work integrates art into the public realm. In collaboration with the architect Lee Harris Pomeroy, Miss was commissioned by MTA Arts for Transit to install 125 red frame elements throughout New York City's multilevel Union Square subway station. Each frame has a mirrored description that focuses attention on a particular aspect of the early industrial architecture of the station. 212/966-4287. Mary Miss, New York City. **CIRCLE 224**



► New glaze on the chopping block

Shown here is a new KraftMaid chopping-block table with a Ginger Glaze finish. This unit can be used as an island or chopping table and is available in maple, birch, cherry, and oak (other wood species will be supplied for pine, poplar, and hickory styles). This table comes in 24-, 30-, 36-, and 42-inch widths and 24- and 30-inch depths. It stands 36 inches high and has a 1¼-inch-thick solid maple chopping block. 440/632-5333. KraftMaid Cabinetry Inc., Middlefield, Ohio. **CIRCLE 222**

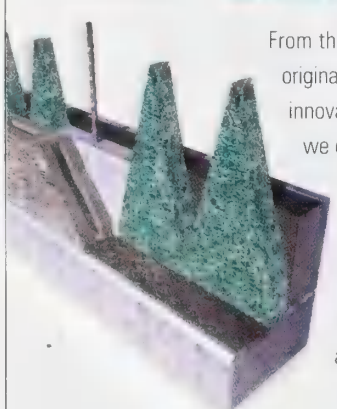


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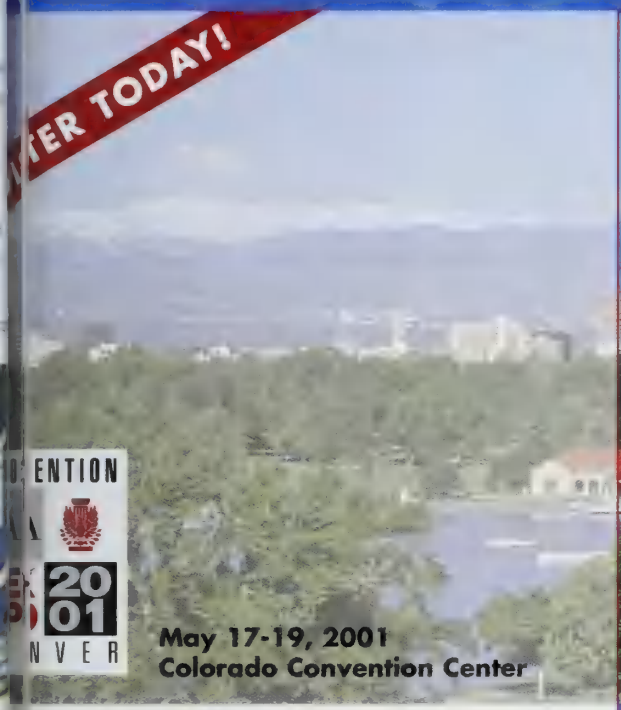
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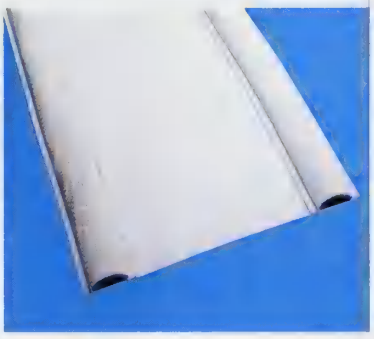
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Product Briefs

▼ Damage control

AquaVert PVC is a patented, factory-fabricated PVC (polyvinyl chloride) system that protects the surface of the roof from A/C condensate, which is delivered efficiently to the roof-drainage system. The fleece backing on AquaVert PVC allows for compatibility with the adhesives for a variety of roofing membranes, including built-up, modified bitumen, and all single ply. 800/445-1500. Johns Manville Roofing Systems Group, Denver. **CIRCLE 225**





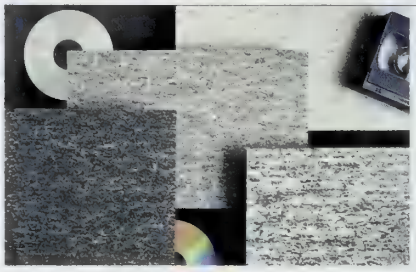
▲ It won't grow on you

The new Astro ClimaPlus ceiling panel is a mid-priced, finely textured, non-fissured ceiling tile that has been treated with the ÆGIS Microbe Shield, developed by Dow Corning. The shield is a patented technology that inhibits the growth of potentially dangerous microorganisms, such as bacteria, fungi, and algae, on panel surfaces. 800/USG-4YOU. USG Corporation, Chicago. **CIRCLE 226**

► Perfect fit

The PosiTile precision-cut carpet product allows a one-to-one fit with Tate Access Flooring's Building Technology Platform and ConCore access floor panels. PosiTile permits the easy relocation of voice, power, and data boxes, as well as in-floor air diffusers. UTP offers recyclable PosiTile designs manufactured with recycled content. 800/225-6052. United Technical Products, Norwood, Mass. **CIRCLE 227**

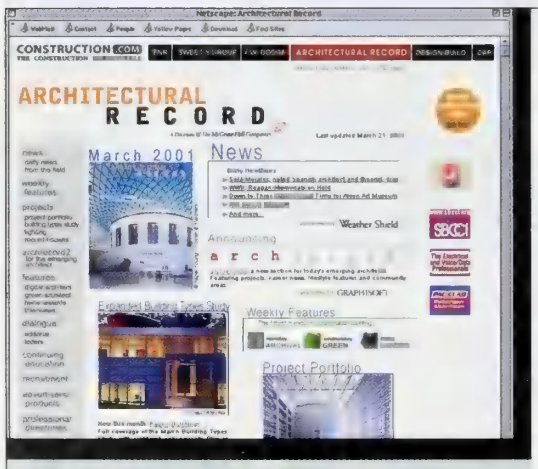




▲ Neutral linoleum

Granette, a new line of linoleum flooring from Armstrong, features a collection of contrasting black, white, and gray visuals for commercial interiors. Like other linoleum floors in the Armstrong line, Granette is made of linseed oil, wood fibers, ground limestone, and a jute fabric for backing. In addition, cork ingredients help absorb sound and provide underfoot comfort. Granette is well suited for retail, hospitality, and entertainment areas. 877/ARMSTRONG. Armstrong World Industries Inc., Lancaster, Pa. **CIRCLE 228**

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Product Literature

How to use Southern pine

Southern Pine Finger-Jointed Studs, a new booklet published by SFPA, highlights the benefits of using studs made of Southern pine, which is one of two classifications of finger-jointed lumber. Applications, availability, and code acceptance of finger-jointed studs are discussed in the booklet. The *2001 Buyer's Guide* contains detailed information on Southern pine lumber products and services of the association's member mills. 504/443-4464. Southern Pine Council, Kennar, La. CIRCLE 229

Actual and virtual stone

GranitiFiandre has packaged its entire line in a user-friendly series of eight architectural binders. The kits house actual samples, as well as "virtual" samples of the entire collection of photography, true to each product's color. 888/903-4263. GranitiFiandre, Itasca, Ill. CIRCLE 230

Handcrafted wood bookcases

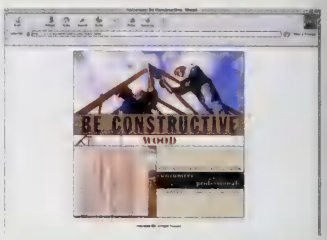
Hale Manufacturing Company has introduced a new 20-page full-color brochure of the company's line of handcrafted fine-wood bookcases and storage cabinets for use in offices, libraries, and upscale residences. Large color photos of each of the nine different series appear in the brochure. 800/USE-HALE. Hale Mfg. Co., Herkimer, N.Y. CIRCLE 231

Ceiling sample box

A newly redesigned sample box for architectural and distributor samples has been specifically designed to coordinate with Chicago Metallic's new Architectural Binder. The binder was introduced late last year. 800/323-7164. Chicago Metallic, Chicago. CIRCLE 232

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Product Literature

Gypsum construction guide

A newly updated paperback guide, *Gypsum Construction Handbook*, provides detailed product, technical, and application information covering the use and application of gypsum wallboard, plaster, veneer plaster, cement board, acoustical ceiling panels, and a range of other wall and ceiling building systems. 800/874-8624. USG Corporation, Chicago. CIRCLE 233

Virtual bathroom design

The *Design Your Dream Bathroom* CD-ROM provides users with an interactive bathroom design guide. 800/524-9797, ext 199. American Standard, Piscataway, N.J. CIRCLE 234

Light-emitting diode lamps

LEDtronics offers a new 31-page catalog, *Miniature Based LED Lamps*, for direct incandescent replacement LED lamps. Within the catalog, the lamp offerings are organized first by base type and then subdivided by LED color. 800/579-4875. LEDtronics Inc., Torrance, Calif. CIRCLE 235

Fire door brochure

The *Fire Control Products* brochure is a detailed guide to Cornell Iron Works' fire doors, counter fire doors, release devices, fire products, accessories, materials, and finishes. 800/233-8366. Cornell Iron Works Inc., Mountaintop, Pa. CIRCLE 236

Acoustic ceiling tile systems

Ecophon CertainTeed is offering a new 138-page color product catalog of its complete line of acoustic ceiling tile systems and wall panels. 877/258-7845. Ecophon CertainTeed Inc., Montgomeryville, Pa. CIRCLE 237

The facts about office design

Kimball International announces the publication of a new workplace study, *Disproving Widespread Myths about Workplace Design*, by Bosti Associates of Buffalo. The publication is intended to be of service to business executives, facilities managers, human resource staff, designers, suppliers, and other stakeholders involved in the realization of high-performance workplaces. Bosti's study is based on research done between 1994 and 2000 by some 13,000 people in 40 business units. 812/482-1600. Kimball International, Jasper, Ind. CIRCLE 238









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CIRCLE 77 ON INQUIRY CARD

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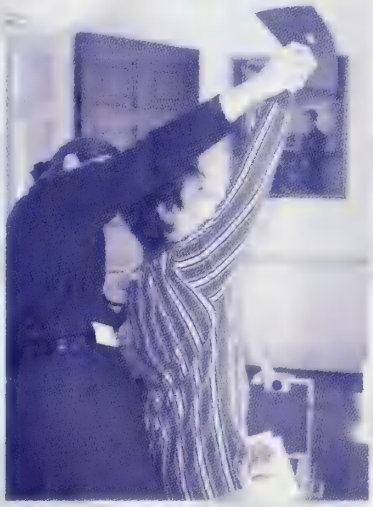
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Left: Educational programs give schoolchildren an early and lasting impression of how architecture enhances their lives.



Above: At sessions of the Mayors' Institute for City Design (MICD), mayors are empowered to make design a major tool for improving quality of life in their cities. The MICD is a program of the National Endowment for the Arts, administered through a partnership of the AAF and the U.S. Conference of Mayors.

Right: Exhibitions in the Foundation's Octagon Museum take architecture and design directly to the public and invite them to interact with it.





Above: Charles Royer, former mayor of Seattle, hosts *Block by Block: Reclaiming Neighborhoods by Design*, the AAF's third Accent on Architecture television documentary.

Above: "Architecture Afloat" tours show participants Washington, DC's landmarks from a whole new perspective.

You can promote a society in which people use the power of architecture to enrich their lives and transform their communities by supporting the initiatives of the AAF.

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ANSWERS

Questions appear on page 170. To receive CES credits, fill in the education reporting form below or on our Web site (www.architecturalrecord.com).

1. Architectural schools have been teaching design theory with a focus on form. This study aimed to rediscover the relationship between design and materials. Each group of design students attempted to transform common materials by enhancing performance and uncovering their latent potential.

2. The "Surface" studio found new uses for a commonly used, unattractive, utilitarian material. They transformed Homasote—an engineered, homogenous building material made of newsprint and water, dried, pressed, and cut into sheets—into a sophisticated and attractive surface material with a suede, painted, or stained finish. Then they enhanced it with light strips to give the material a new tactile quality. It's strong and water-resistant, and, more important, it's a sustainable product.

3. The new fabrication technologies used techniques from the apparel industry to form wood and rubber. This allowed wood to be bent and joined in unconventional ways. The wood pieces were drawn in a computer program and then cut by laser, so that unidentical shapes were cut in the same amount of time as identical shapes, demonstrating the cost-efficiency of custom fabrication. Rubber was used in unconventional ways as well. It was poured into molds and reinforced with fiberglass mesh. The mesh was then pleated and folded to create a structure. By varying the thickness of the rubber, the designers created a translucent paneling system with visible reinforcement.

The key to these custom pieces is the availability of CAD/CAM and CNC milling equipment, making it possible to send computer files directly to the machinery and thus eliminating the need for time-consuming shop drawings.

4. The technology transfer approach was to take a material used in one industry and apply it in another industry. In "Phenomena," Pudgee foam, used in the medical industry to protect patients, and strong packaging foam, used to protect fragile equipment, were applied to furniture design. In "Substance," aerogel—hollow silica cavities used in aerospace insulation—was investigated in order to determine its application in both residential and commercial building insulation. This was an extension of the research being done to improve its strength and marketability.

5. The aerogel study is innovative from a design perspective because it suggests a totally different way of thinking about walls and windows. Since aerogel is a gradient material, it can be variegated between transparent and opaque, and it is a good insulator. It may revolutionize the concept of separate windows and walls, making them flow in one surface by varying the opacity. By dramatically reducing building energy consumption, aerogel could be one of the greatest innovations in decades.

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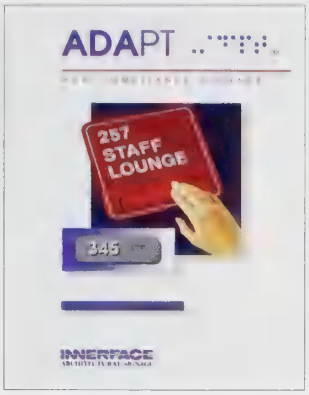


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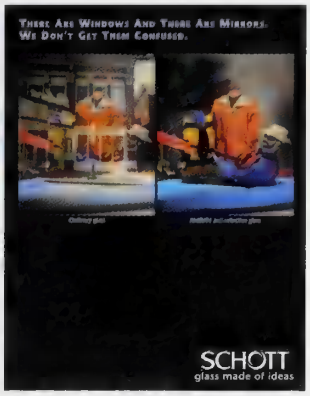


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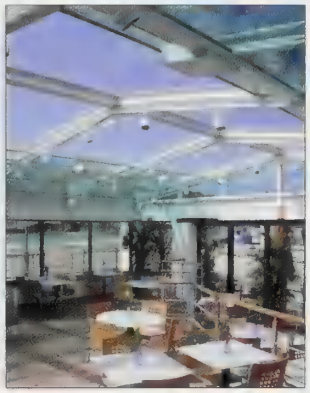


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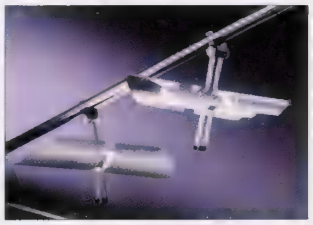
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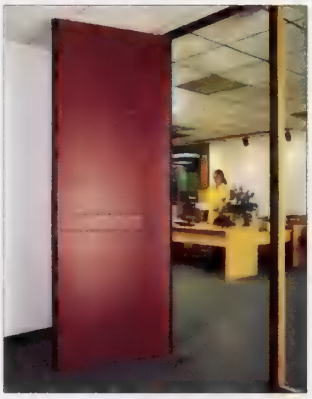


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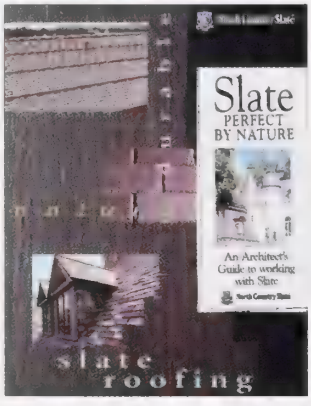


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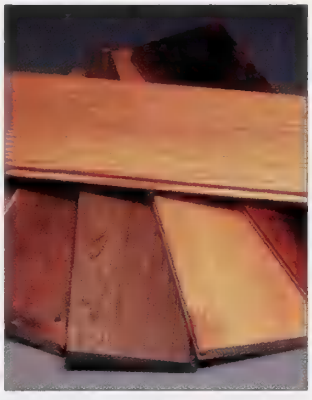


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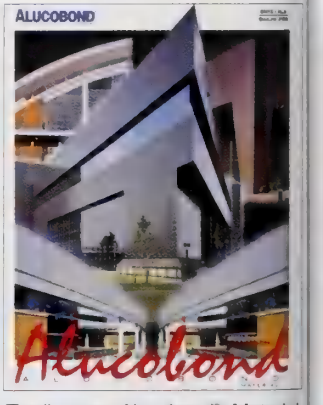


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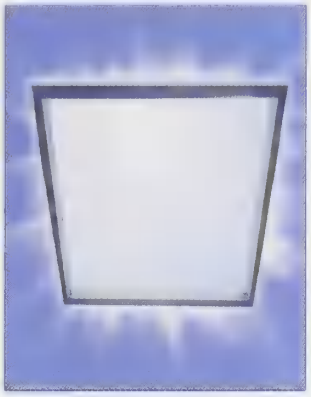


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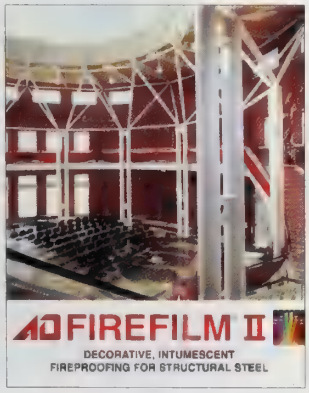


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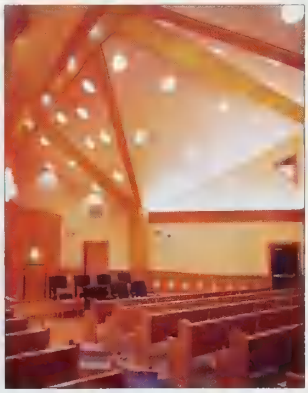


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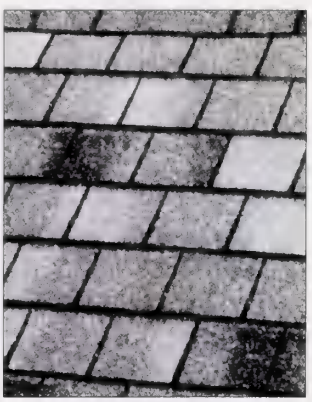


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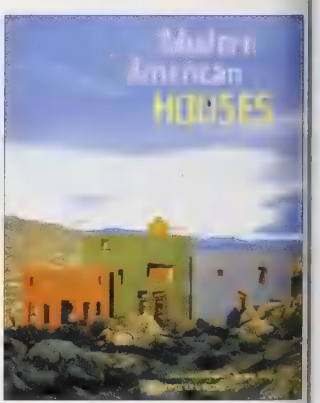


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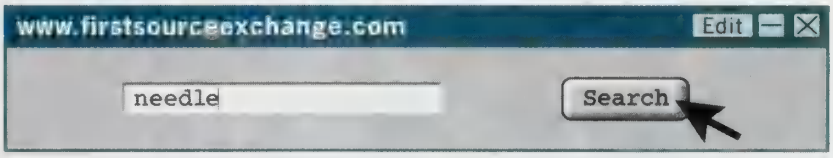


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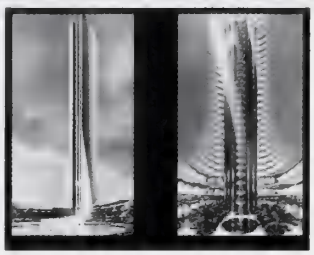
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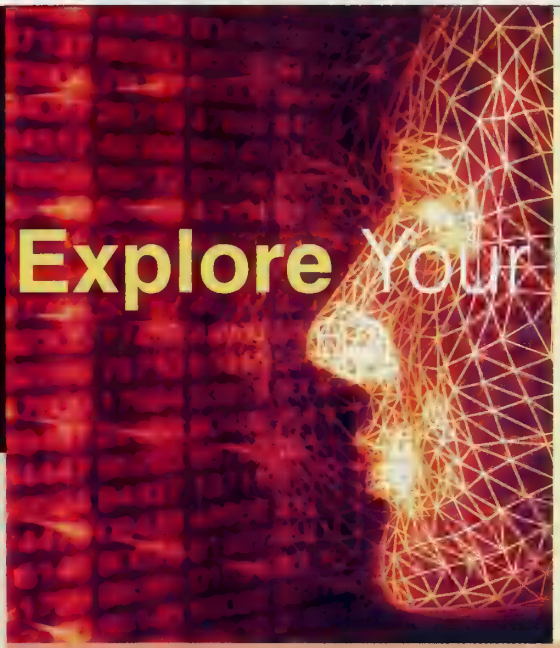
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A legacy at large: Martin & Edwin Rambusch

Interviewed by Ingrid Whitehead

In a day of dotcoms and fly-by-night firms, the story of a company whose products span four generations can hardly be ignored. For over eight decades, the Rambusch Company's lighting, liturgical arts, and architectural restoration services have graced this nation's most important buildings, in over 40 state capitols and over 12,000 churches. Through architectural styles and technological advancements, whichever Rambusch was running the business added to its success and kept traditions intact. With casual confidence and more than a nod to their past, the latest leaders, 34-year-old twins Martin (above left) and Edwin (above right), are honoring the legacy of this modern company engaged in age-old arts and crafts.

Q: *You both studied art, Martin at Tulane and Edwin at Bates College in Maine. Did you always know that you would take over the family business?*

Edwin Rambusch: We had plans to do other things, but my father [Rambusch Company president from 1970 to 1998], is a wonderful storyteller, and his greatest sale was to get us to come and work for the company.

Martin Rambusch: It's amazing and a little overwhelming to do what we're doing. The bar—our past—is very high. There is so much history, and very few prominent buildings that we haven't been a part of. We have to live up to that. And we handle much of our business relationships the old-fashioned way, with word-of-mouth as our most powerful marketing tool.

So what is the signature of the Rambusch Company with Edwin and Martin at the helm?

MR: There is no Rambusch "signature style." We don't need our mark to be known. With the lighting business, with the liturgical arts business, with the stained glass, we have to fit our work into the existing interior. We could double our business if we branded the name, but doing the same thing over and over isn't interesting to us.

How do you view your relationship with architects?

ER: With architects, with engineers, with lighting designers, our role is supporting. We view ourselves as their "hands." We are crafting concepts into a physical reality, helping realize a specific need.

You've worked on so many churches. What, architecturally, is most unique about them?

MR: Atmosphere is everything.

ER: Light is the most important architectural element. Everybody talks about music in a church, how it can bring a blind person through to a higher place. But lighting is just as powerful. Good lighting can bring a deaf person through. I think it was author Brendan Gill who said that light is like the bagpipes. The minute you hear bagpipes, no matter where you are, there is a mystical, physical, and emotional response that occurs. The same thing happens with light.

What other kinds of projects are you involved in?

ER: We work on a lot of liturgical projects, but we are shaping and involved in many different kinds of buildings as well; sports arenas, casinos, convention centers—the new houses of worship.

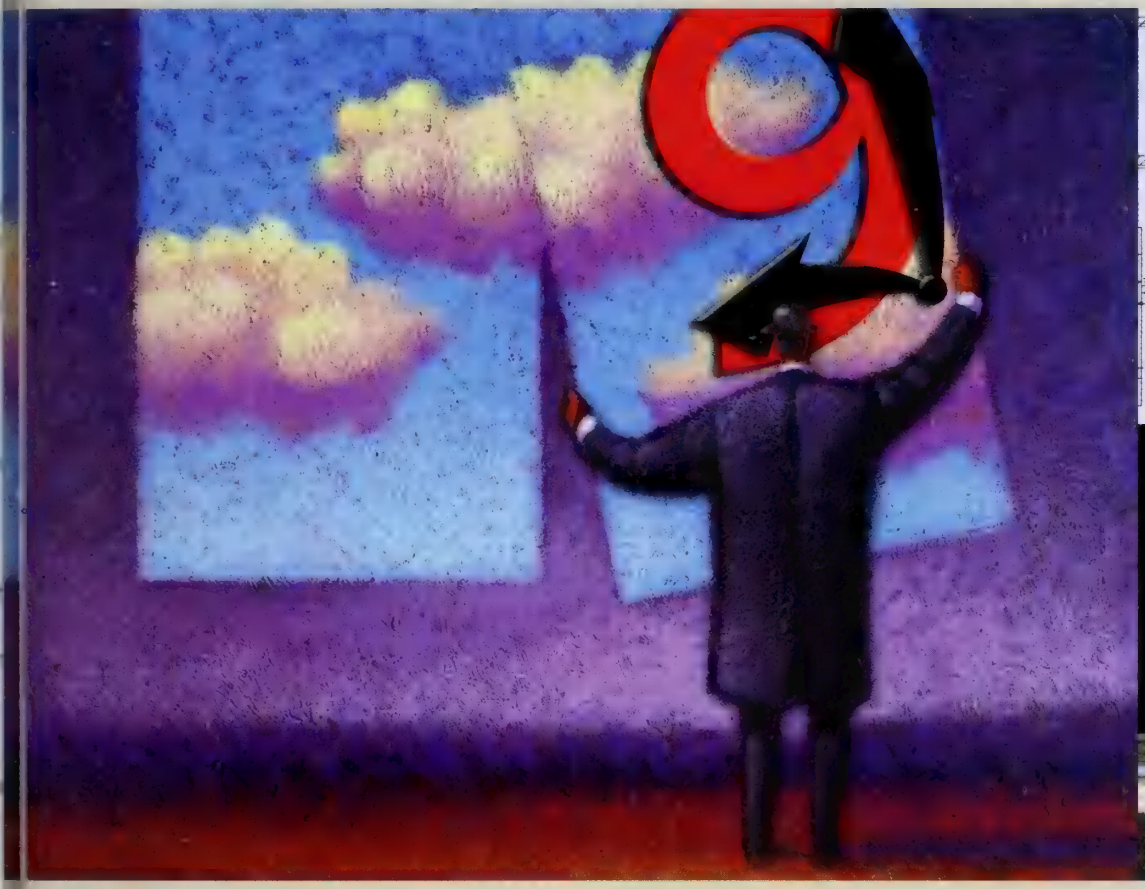
Who's the "bad brother" and the "good brother"?

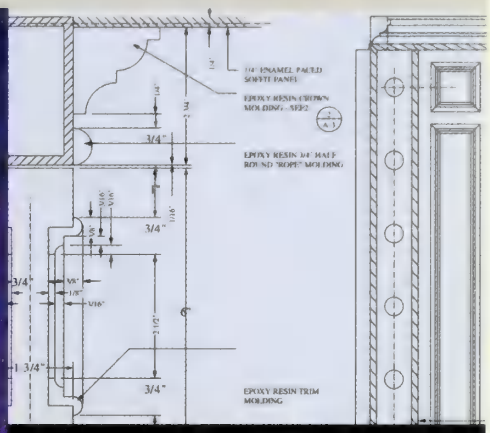
ER: Depends on the day and depends on who's calling. ■

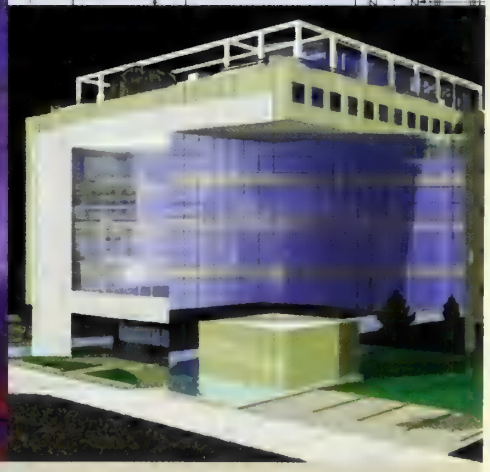
Photographed at the Rambusch Company workshop in Jersey City, N.J., by Euclides Santiago

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At 5:30 Friday night, Monday's grand opening of the North Carolina Aquarium looked anything but grand for the contractor. Short three boxes of Cornerbead™ two and four-foot runs, he made several calls but was unable to locate the cross tees he needed. At 6:30, he called USG Sales Rep Pat Lawson. Pat's live voice on the phone this late on a Friday evening was cause for celebration, but Pat's initial attempts failed to turn up any additional cross tees. Then Pat remembered another contractor was using the same material. He called the contractor at home. Payoff – the contractor could spare the tees, if they were replaced by the following week. So Pat arranged to pick up the tees at the contractor's site. At 3:00 am he was up and on the road. Some quick thinking and four boxes of drywall made the opening very grand indeed.

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